



RQF LEVEL 3



BDCPC301 FOOD AND BEVARAGE OPERATION

Kitchen Mise En Place

TRAINEE MANUAL



KITCHEN MISE EN PLACE



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FOREWORD

Welcome to the world of Technical and Vocational Education and Training (TVET) in the hospitality and tourism sector. In an era of constant evolution and growing demand for skilled professionals, the importance of specialized training cannot be overstated. As the global hospitality and tourism industry continues to flourish, the need for competent individuals equipped with relevant knowledge and practical skills has become crucial. This collection of TVET training manuals serves as a comprehensive resource for those seeking to embark on a fulfilling career or further their expertise within the hospitality and tourism sector. Developed with meticulous attention to detail and in collaboration with industry experts, these manuals offer a wealth of knowledge, practical insights, and hands-on training exercises.

The manuals cover a wide range of topics, ranging from essential foundational concepts to specialized areas within the industry. Whether you are interested in hotel management, culinary arts, event planning, travel and tourism, or any other facet of this vibrant sector, you will find invaluable guidance within these pages. At the heart of the TVET approach is the belief that learning should be both practical and relevant. These manuals have been carefully crafted to ensure that they reflect the real-world challenges and requirements of the hospitality and tourism industry. They are designed to empower learners with the skills, competencies, and confidence needed to excel in their chosen field.

Furthermore, the manuals adopt a learner-centered approach, encouraging active participation, critical thinking, and problem-solving. Throughout each module, learners are encouraged to engage in practical exercises, case studies, and interactive activities that simulate real-world scenarios. This hands-on approach allows learners to apply theoretical concepts and develop the necessary skills that are highly sought after in the industry.

We understand that education is a lifelong journey, and these manuals have been designed to cater to learners at various stages of their professional development. Whether you are a student taking your first steps in the industry, a working professional seeking to enhance your skills, or an instructor guiding aspiring individuals, you will find the manuals to be a valuable asset.

I would like to express my sincere appreciation to the authors, industry experts, and educators who have contributed to the creation of these TVET training manuals. Their dedication and expertise have ensured that the manuals are of the highest quality and relevance.

I encourage you to embrace the opportunities presented within these pages, to explore the dynamic world of hospitality and tourism, and to unlock your potential in this exciting industry. By investing in your education and acquiring the skills offered in these manuals, you are taking a significant step towards a rewarding and successful career.

Best wishes on your journey of discovery and growth in the hospitality and tourism sector.

Dipl.-Ing. Paul UMUKUNZI

Director General/ RTB

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ACRONYMS

FIFO: First-In-First-Out

HQs: Highly Qualified

KPI: Key Performance Indicator

LIFO: Last-In-First-Out

RTB: Rwanda TVET Board

TVET: Technical and Vocational Education and Training

Web: World Wide Web

UK: United Kingdom

US: United State

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INTRODUCTION

Welcome to the training manual focused on food and beverage operations in the hospitality and tourism sector. This manual, titled "Kitchen Mise en place," aims to provide extensive training for individuals who wish to comprehend the significance of Performing Kitchen Mise en Place.

The manual is composed of five units that delve into crucial aspects of preserving food nutrients during cooking. These include select and use tools and equipment, identify and select food commodities, prepare ingredients, set and arrange buffet station and store food, tools, and equipment.

The manual provides an interactive learning experience consisting of discovery activities that allow learners to discover and explore concepts, problem-solving activities that challenge learners to think critically and find solutions, guided practice activities that offer step-by-step instructions, and application activities that motivate learners to apply their newly acquired knowledge in real-world situations.

The manual also features assessment activities that provide feedback to learners regarding their progress and assist them in identifying areas where they can improve.

Upon completion of this manual, learners will have an extensive understanding of aspects of performing kitchen Mise en place and possess the necessary skills to select and use kitchen tools and equipment. Let's get started!

Units:

Unit 1: Select and use kitchen tools and equipment

Unit 2: Select food commodities

Unit 3: Prepare ingredients for cooking

Unit 4: Set and arrange buffet station

Unit 5: Store food, tools and equipment

UNIT 1: SELECT AND USE TOOLS AND EQUIPMENT



Figure 1: Selecting tools and equipment



Figure 2: Using tools and equipment

Unit summary:

This unit describes the knowledge, skills and attitudes needed to identify and use different kitchen tools and equipment.

At the end of this unit, you will be able to identify kitchen tools and equipment, use kitchen tools and equipment.

Self-Assessment: Unit 1

1. Look at the illustration. What is happening? What do you think this learning outcome will be about?
2. Fill in the self assessment below.

There are no right or wrong ways to answer this survey. It is for your own use during this course. Think about yourself: do you think you can do this? How well? Read the statements across the top. Put a check in column that best represents your situation. At the end of this learning outcome, we'll take this survey again.

My experience	I don't have any experience doing this.	I know a little about this.	I have some experience doing this.	I have a lot of experience with this.	I am confident in my ability to do this.
Knowledge, skills and attitudes					
Define kitchen tools and equipment.					
Explain the use of kitchen tools and equipment.					
Identify 7 selection criteria to follow while selecting kitchen tools and equipment.					
Select the 5 main kitchen tools and equipment mostly used for mise en place.					

My experience	I don't have any experience doing this.	I know a little about this.	I have some experience doing this.	I have a lot of experience with this.	I am confident in my ability to do this.
Knowledge, skills and attitudes					
Describe the key characteristics to base on when purchasing kitchen tools and equipment.					
Select the chemicals used to clean kitchen tools and equipment.					
List down equipment used for storing kitchen tools and equipment					
Explain procedure to clean kitchen tools and equipment.					
Clean kitchen tools and equipment					
Store kitchen tools and equipment					

Table 1: Self-Assessment: Unit 1

Key Competencies:

Knowledge	Skills	Attitudes
1. Identify kitchen tools and equipment	1. Select kitchen tools and equipment	1. kitchen tools and equipment are handled with care
2. Identify the appropriate use of kitchen tools and equipment	2. Select the right way to use kitchen tools and equipment.	2. kitchen tools and equipment are used properly
3. Explain the storage procedure for kitchen tools and equipment.	3. Store kitchen tools and equipment securely	3. Kitchen tools and equipment are stored safely.

Table 2: Key Competencies:Unit 1



Discovery Activity



Task:1

Discuss the following questions with your partner (pair):

What does kitchen tools mean?

1. Explain the use of knife in kitchen.
2. Have you ever used knife?
3. What are types of knives have you used?
4. What are the safety procedures to follow while using knife?

Discuss with your pair all the questions (1., 2., 3)

Share your findings on the questions (4) with the rest of the class. Compare and discuss your ideas.

Topic 1.1: Identification of kitchen tools



Figure 3: Identification of kitchen tools



Activity 1: Problem Solving

1. In group of 5 discuss the following situation:
 - a. " Garoo Kigali hotel has purchased kitchen tools and equipment from XYZ supplier. On delivery day, he requests you to categorize tools and equipment for the kitchen full set up.
2. Read the situation discuss and brainstorm answers to the following questions:
 - a. List all the tools that that Garoo hotel will need for its kitchen set up
 - b. Categorize the tools that Garoo hotel will need for its kitchen set up
3. Take a time to brainstorm and discuss the questions in your respective groups.

4. Present your work in a plenary session.



Task

Key Facts (Indicative contents)

- **Identification of kitchen tools**

- **Food containers**

- ✓ **Plastic Food Containers**

Plastic food containers are one of the least expensive storage options. They're very durable containers that are dishwasher safe. These containers usually come in large quantities, and the overall cost of production is relatively cheap. Another benefit of plastic food containers is that you don't have to be very careful with them. They can tolerate getting jostled around and still remain intact.

- ✓ **Glass Food Containers**

If you want food containers that look nicer, glass food containers may be the ones for you. It's no secret that food will look better in a glass container than in a plastic container. Glass containers are relatively durable, but many won't withstand being dropped.

- ✓ **Stainless Steel Food Containers**

Stainless steel containers have a sleek, modern design. Most of these containers have plastic or silicone lids to completely seal off the containers and keep the contents fresh. When refrigerated, they can help keep the food fresher for longer periods of time. These containers are completely unbreakable.

- ✓ **Ceramic Food Containers**

Ceramic food containers are typically the most decorative out of all the various types of food containers. Ceramic is a very sturdy and durable material, making it an excellent choice

for food containers. It's generally non-porous and non-toxic. The ceramic food containers can be (without the lids) heated in the microwave, oven, and stove.

✓ **Acrylic Food Containers**

Acrylic food containers are a type of plastic. These food containers are BPA-free, ensuring that no harm is done from toxins. It's very difficult for these containers to shatter, so they're very drop-proof. Acrylic food containers are see-through, so you can see the contents without having to open the lid. Some acrylic food containers have different sections, so they're perfect for storing whole meals and for meal planning.

✓ **Vacuum Pouches**

Whether you're looking to portion out food or preserve it, a vacuum-tight pouch is a great option. Seal freshness and flavor in, make seasonal foods last longer, and save money over time!

Air is the main thing that eventually spoils food, so these vacuum pouches remove all the air and use heat to create an airtight seal. These packs are clear, so you'll know exactly what's inside of each one.

FoodSaver is a popular brand for vacuum-sealed pouches. This home vacuum sealer keeps food fresh up to 5 times longer than other food storage containers.

✓ **Metal Cans**

Metal can food containers work best for things like sauces or other foods in small quantities. Of course, there are also larger sizes available. Metal cans are also moderately airtight, thus helping to preserve the contents for a longer period of time.

✓ **Aluminum Food Containers**

Aluminum food containers are a typical "throw-away" style of storage containers. Aluminum provides a good barrier between the food and light and air that could affect the food quality. These types of food containers can be recycled, too. Since it's a lightweight and

plentiful material, it's relatively inexpensive. There are lots of sizes available. You can also cook food in these food containers then proceed to store it in the same container.

✓ **Styrofoam Food Containers**

You probably think of styrofoam food containers when you think of your leftovers or takeout from favorite restaurant. However, you can also purchase your own styrofoam food containers for home use. Styrofoam is great at maintaining the food's temperature, whether it's hot or cold. It's a rather inexpensive option and can be found in multiple sizes. It's a known fact that styrofoam takes longer to break down, so it's not the best thing for the environment. But with that said, you can find some styrofoam containers that are safer for the environment and that do breakdown.

✓ **Copper Food Containers**

If you want to give your food storage containers a facelift, look no further than the use of copper food containers. Copper is a gorgeous, durable metal. You'll enjoy long-lasting food containers that won't absorb any odors from their contents. It's best to handwash these containers. They're oven-safe at a low temperature.

✓ **Silicone Food Containers**

Silicone food storage containers have become increasingly popular. Many silicone containers are collapsible, meaning you'll save a lot of room when storing them not in use. Silicone containers don't absorb odors. Silicone food containers are safe, durable, and reusable. There are also reusable silicone zipper bags available. The silicone zipper bags are dishwasher and microwave safe. Some silicone food storage containers are see-through while others are not. A wide range of food types can be stored in these containers.

✓ **Pyrex Food Containers**

Pyrex food storage containers are well-loved. These glassware containers are durable and long-lasting. The containers seal in freshness and reduce waste. The design of these containers make it easy to stack them- both in the fridge or in storage. Create a perfectly

organized kitchen cabinet with the way these containers stack and store. There are both clear glass and decorative glass options.

- **Electric appliances**

- ✓ **Stove or Range**

Large kitchen appliance consisting of burners and an oven used to cook food

- ✓ **Microwave**

Kitchen appliance that cooks food by passing an electromagnetic wave through it

- ✓ **Egg Beater**

Kitchen utensil used to mix things such as eggs or cream

- ✓ **Digital Scale**

Instrument used to measure specific weights

- ✓ **Coffee Maker**

Small kitchen appliance used to brew coffee automatically

- ✓ **Stand Mixer**

Kitchen appliance used to mix food such as batter or dough

- ✓ **Blender**

Small kitchen appliance used to mix or puree food

- ✓ **Food Processor**

Small kitchen appliance with interchangeable blades used for shredding, blending, chopping or slicing food

- ✓ **Slow Cooker**

Small cooking appliance that uses low temperatures to cook food over an extended period of time allowing for unattended cooking

✓ **Toaster**

Small kitchen appliance designed to toast bread products

- **Cutting tools**

✓ **Apple Corer**

Kitchen device used to slice and core apples

✓ **Pizza Cutter**

A wheel-bladed kitchen cutting utensil used to cut pizza

✓ **Kitchen Shears**

Kitchen utensil used to trim food such as chicken

✓ **Carving Knife**

A kitchen knife designed to slice meats

✓ **Cookie Cutters**

Used to cut shapes in dough

- **Pots and pans**

✓ **Stock Pot**

A large, tall, narrow pot used to cook soups, broths or pastas

✓ **Dutch Oven**

Cooking pot usually made of cast-iron with a tight fitting lid normally used to cook on a campfire

✓ **Bar Pan**

Kitchen pan with shallow sides used to make baked goods such as brownies and bars

✓ **Saucepan**

A deep pan with a handle intended for use on the stovetop and is used for stewing and boiling

✓ **Double Boiler**

Consists of two saucepans, one fitting inside the other. Used to cook sauces or melt chocolate without burning or seizing it. Boiling water is placed in the bottom pot and the sauce or chocolate is placed in the top pot.

✓ **Griddle**

Piece of cooking equipment with a flat metal portion on which food is cooked

✓ **Frying Pan**

Pan used for frying, searing or browning foods

✓ **Cast Iron Frying Pan**

Kitchen pan used to fry foods such as meat. Pan comes in varying sizes and can be used to cook with outdoors.

✓ **Skillet**

Pan usually large and heavy with moderately shallow sides used for frying or cooking a meal

✓ **Casserole Dish**

Piece of cookware used in the oven to cook food

✓ **Pie Tin**

Round baking pan with slanted sides used for making pies

✓ **Cake Pan**

Round pan used for baking cakes in the oven

- **Cooking utensils**

- ✓ **Cutting Board**

A durable board made of plastic or wood where you cut food items

- ✓ **Grater**

Kitchen utensil with sharp perforations used to shred foods such as cheeses or vegetables

- ✓ **Baking Sheet**

A flat, rectangular pan used for baking flat products such as cookies

- ✓ **Cooling Rack**

Wire rack used to cool baked goods such as bread or cookies

- ✓ **Juicer**

Kitchen device used for extracting juice from fruits such as oranges or lemons

- ✓ **Egg Separator**

Kitchen utensil used to separate the egg yolk from the egg white

- ✓ **Spatula**

A kitchen utensil with a long handle and a flat edge designed for lifting or turning foods

- ✓ **Rubber Scraper**

Kitchen utensil designed for scraping insides of bowls or jars to remove all of the contents

- ✓ **Pasta Spoon**

Kitchen serving utensil used for easily serving pasta such as spaghetti

- ✓ **Tongs**

Kitchen utensil used for picking items up, commonly used when grilling

✓ **Strainer**

Used in the kitchen to separate liquid from solids or to wash and drain small amounts of food

✓ **Pastry Brush/Basting Brush**

Cooking utensil used to spread oil or glazes on foods

✓ **Handheld Can Opener**

Kitchen utensil used to remove the lid of aluminum cans; may be electric or handheld

✓ **Rolling Pin**

Cylindrical kitchen utensil designed for rolling out dough

✓ **Serving Spatula**

Kitchen utensil used to serve foods such as bars, pies and cakes

✓ **Slotted Spoon**

Kitchen utensil used for stirring or serving foods such as vegetables

✓ **Ladle**

Kitchen utensil designed for serving soups and stews

✓ **Muffin Tin**

Pan with individual molds used for making muffins or cupcakes

✓ **Colander**

Bowl-shaped kitchen utensil with holes used to drain and rinse foods

✓ **Flour Sifter**

Kitchen device used to sift flour or powdered sugar

✓ **Meat Thermometer**

Used to determine the internal temperature of meats to determine doneness

- **Mixing tools**

✓ **Wire Whisk**

Kitchen utensil with wire coils used to beat eggs, cream, etc.

✓ **Mixing Bowls**

Bowl used in the preparation of food for combining ingredients

- **Measuring tools**

✓ **Liquid Measuring Cup**

Measuring cup used to measure large amounts of liquid ingredients

✓ **Dry Measuring Cups**

Measuring utensils used to measure dry ingredients

✓ **Measuring Spoons**

Measuring utensils used to measure small amounts of either dry or liquid ingredients

✓ **Scoop**

Specialized measuring spoon used to portion different amounts of foods

✓ **Manual Scale**

Instrument used to measure specific weights

✓ **Digital Scale**

Instrument used to measure specific weights



Activity 2: Guided Practice



Task:

You brainstorm on the (a and b) and you present in the plenary session.

As you have already listed all the tools that that Garoo hotel will need for its kitchen set up, discuss the following questions:

- a. Identified and selected tools that you will need for making mise en place for Spanish omelet.
- b. Classify tools basing on their use.

Tools to make Spanish omelet are identified and selected for mise enplace

- ✓ Frying pan
- ✓ Folk
- ✓ Mixing bowl
- ✓ Plates
- ✓ Egg lifter
- ✓ Silicon spatula

Tools to make Spanish omelet are identified basing on their use.

- Frying pan: Use for cooking omelet
- Folk: Use for mixing eggs
- Mixing bowl: Use for beating eggs
- Plates: Use for plating
- Egg lifter: Use for lifting omelet
- Silicon spatula: Use for turning omelet



Activity 3: Application

Topic 1.1 Task 3:



Task:

Observe carefully and execute the following tasks:

1. Select the right tools to make Spanish omelet.
2. verify the cleanliness of the tools and place them on the table
3. Each group is requested to present.

Comment on each group performance.

Topic 1.2: Identification of Kitchen equipment



Figure 4: Identification of Kitchen equipment

Activity 1: Problem Solving



Task:

1. Create groups of 3-4 and discuss on situation written as follow:

” Chef Niyo is expecting a group of guests at his hotel tomorrow. In order to be ready, he has requested you to assist him prepare kitchen equipment mise en place for bakery products.

1. Read the situation, discuss, and brainstorm to the following questions:

- a. List down the kitchen equipment that you will need for mise en place of bakery products.
- b. Select kitchen equipment that you may need for preparing and bake products.

2. Take time to brainstorm and discuss the questions in your respective groups.

3. Present your work in a plenary session.

Key Facts (Indicative contents)

- **Identification of Kitchen equipment**

Classification

Kitchen equipment may be divided into three categories:

- **Large Equipment**

Ranges, Steamers, boiling pans, fryers, tables, sinks etc.

- **Mechanical Equipment:**

Peelers, Mincing machines, mixers, refrigerators, dishwashers, exhausts etc.

- **Small Equipment and Utensils:**

Pots, pans, whisks, bowls, spoons, knives, graters etc.

- **Cookers**

An appliance used for cooking food, typically consisting of an oven, hob, and grill, and powered by gas or electricity.

Types of cookers

Gas cooker

Powered by mains for the majority of people but occasionally using bottled gas, cookers and ovens using gas have long been a popular choice for households. Quick to heat up and easy to control as it's a much more visual cooking method than any of the electrical choices, gas cooker tops and electric ovens such as the Siemens built-in ovens are a popular combination for many kitchens requiring a sleek design. The only real disadvantage to using a gas cooker is that there's more parts to dismantle and clean with the rings as they will need washing regularly to remove the fat and food residue otherwise they can quickly become blocked.

Electric cooker

An electric cooker is an electric powered cooking device for heating and cooking of food. An electric cooker often has four stoves and one or two ovens. There will be knobs to

determine the temperature of the ovens and stoves. Unlike gas stoves that are powered by gas, it is powered by electricity.

- **Dual fuel cooker**

Dual fuel stoves are ranges that feature a gas cook top and an electric oven, combining the strengths of both. Gas cook tops offer quick heating and ample temperature control. Electric oven elements cycle in patterns that allow for optimal management of temperatures, making them ideal for baking.

- **Fridges**

A fridge is a large metal container which is kept cool, usually by electricity, so that food that is put in it stays fresh.

- **Freezers**

A freezer is a large container like a fridge in which the temperature is kept below freezing point so that you can store food inside it for long periods.

- **Work tables**

Workbenches are tables that are indispensable in every kitchen or bakery. Preparations for various dishes take place on a worktable. For example, think of cutting various ingredients. To perform these actions, people need the space and that is exactly what a workbench can help with.

- **Kitchen machineries**

Kitchen machineries are types of kitchen equipment needed depend largely on the type of restaurant and the food you will be serving. If you own a bakery, you might not need the same type of oven as a fine-dining restaurant.

Choosing an oven can be a long process, which is why it's important to know what to look out for. Keep these factors in mind when choosing the right oven for your restaurant

Types of ovens

The type of oven (or ovens!) you need is going to depend largely on what you will be serving. Before starting your search, make a list of the types of foods you envision serving and this will help narrow your options.

Commercial oven

Most restaurants will have at least one commercial or standard oven. This type of oven is great for even style cooking and ideal for baked dishes. Consider this a must for most restaurants.

Convection oven

Unlike commercial ovens, these ovens have fans that help circulate hot air. A convection oven is essential for bakeries and ideal for baking things like bread, pastries, pies and cookies, as well as toasting, roasting and dehydrating.

Combination oven

The combination oven is a mix of a convection oven and a steamer. The main plus of this type of oven is its versatility. With a combination oven you can roast, steam, smoke, fry, bake or grill. You name it, the combi oven can do it.

Pizza oven

As the name suggests, this type of oven is used for making pizzas. Because of its high temperature, its use is not limited to just pizza making. With a pizza oven you can also handle anything from desserts to meats.

Conveyor Oven

You've probably seen this type of oven at your neighborhood sandwich or pizza shop. In a conveyor oven, food passes through a conveyor belt where it heats up or gets cooked at a certain pace and heat.

Freezers and refrigerators

Freezers and refrigerators are important to keep food fresh for as long as kitchen need to invest in quality freezers and refrigerators.

- **Storage cabinet**

Storage racks and shelving

Every kitchen needs good shelving and storage for dry food, utensils, and equipment.

Storage choices need to be strategic and durable. This is not something you want to have to change or replace, so choosing the right material the first time should be a priority.

When it comes to storage or shelving, there is a wide variety of materials to choose from: Chrome wire, epoxy, coated, polymer, anti-microbial and stainless steel. Choice will depend entirely on buyer budget, use and personal preference.



Activity 2: Guided Practice



Task:

1. Brainstorm on the (a and b) and you will present in the plenary session.

Discuss the following questions:

- a. As you have already listed the kitchen equipment that you will need for making mise en place for bakery products.
- b. Classify kitchen equipment basing on their use.



Activity 3: Application



Task:

Read carefully and execute the following tasks:

- a. Select the right kitchen equipment need for making mise en place for bakery products.

- b. verify the cleanliness of kitchen equipment need for making mise en place for bakery products
- c. Each group is requested to present.

Discuss on each group performance.

Topic 1.3: Using kitchen tools and equipment



Figure 5: Using kitchen tools and equipment

- **Cleaning**

Clean kitchen utensils in hot water with an antibacterial detergent. When sanitizing kitchen tools and equipment, use either boiling water or a solution of bleach and water.

Cleaning after cooking

After you have finished cooking, it's vital you're cleaning and sanitizing kitchen tools and equipment to prevent the spread of bacteria. To start with, here's how you can clean your tools:

Scrape any food debris into a bin before cleaning and sanitizing tools and equipment.

Fill your sink with warm to hot water and an antibacterial detergent. Use a clean sponge or brush to scrub each item thoroughly, making sure to remove all bits of food and getting into

all the little, hard-to-reach areas. Either leave to air dry or use a dish cloth, which should be cleaned with a quality detergent, such as, to ensure you're properly cleaning and sanitizing kitchen tools and equipment.

Sanitizing kitchen tools and equipment

If you need to be thoroughly sanitizing kitchen tools and equipment to ensure there's no chance of any bacteria, follow these steps:

Put your utensils in a large pan, covering them fully in water. Carefully bring the water to the boil, putting a lid on the pan, for 5 minutes. Remove the lid and wait for the water to stop boiling before removing the utensils with prongs. Another method for cleaning and sanitizing kitchen utensils is to combine a tablespoon of bleach with a gallon of water, leaving your tools to soak before rinsing them thoroughly with hot water.

Cleaning Materials for kitchen tools and equipment

It is important to ensure that the correct cleaning materials and products are used to ensure safety and hygiene in the kitchen. For example:

Detergents: These are used to remove food debris, grease, and dirt. They cannot kill bacteria and microorganisms. Detergents are usually used to wash crockery and cutlery and are especially designed for use either by hand or in a dishwasher.

Disinfectants: These are used to destroy the harmful bacteria which can remain on articles and cause food contamination and cross-contamination. Disinfectants include diluted bleaches and antibacterial solutions. Equipment and food contact surfaces must be disinfected between two different types of food preparation.

Sanitizers: These contain both detergents and disinfectants and may be used in washing shelves, and dishes.

Water - the simplest cleaner of all. Water can also be used to rinse out dirt removed other cleaning agents.

General purpose or neutral detergents - these are able to penetrate moderately greasy and dirty from tools and equipment.

Hard surface cleaners - these are used for heavier stain from dishes. Care should be taken as they are corrosive and may damage surfaces if used incorrectly.

Abrasive powders - mostly used for cleaning dishes.

The Oven & Stove cleaning

The exterior of your stove and oven should be wiped down frequently to remove food buildup. Be sure to include the knobs! Burners and grates should be soaked in hot, soapy water before scrubbing away debris. If you have a self-cleaning oven, follow the manufacturer's instructions carefully. If not, scrub down the inside of the oven with soapy water or a degreasing agent. This chore should be done at least once every three months. Lastly, remove the hood fan filters, and soak them in hot water with soap or a degreasing agent and rinse thoroughly.

The Microwave

This handy little appliance can also be one of the messiest! From splattering foods to bubbling spills, it can become covered in grime in a jiffy! Luckily, it's also one of the easiest to clean. First, place a microwave-safe bowl with about a cup of water and a few tablespoons of vinegar into the microwave. Run on high until it's boiling and steamy and let cool for 15 minutes. The interior walls should wipe down with ease.

Make sure you also wipe the rubber gasket around the door with a damp sponge and use a household cleaner to wipe down the outside. Always use a soft cloth or sponge on the outside as rough sponges can leave scratches behind.

The Refrigerator

Clean is key when it comes to keeping the fridge in top shape. First, make sure you're cleaning under and behind the refrigerator regularly, including the grill, to improve airflow. While you're at it, give the coils a thorough vacuuming so they can cool more effectively and help the refrigerator live a longer life.

Sticky door seals around the fridge and freezer should be wiped down with warm, soapy water to ensure proper closure. If your freezer is not frost-free, periodically defrosting whenever the buildup exceeds a quarter inch will be necessary. This is also a good time to remove all the ice from the dispenser and give it a good cleaning for fresh-tasting ice. Lastly, the water filter in your fridge should be replaced every six months, or sooner if you drink a lot of water!

The Dishwasher

Seems odd to have to clean a machine that does the cleaning, but it's a necessary job. First, if your dishwasher is equipped with a filter to trap bits of food, make sure you're cleaning that out frequently. Spray arms can become clogged with food and mineral deposits, and a toothpick is a simple way to keep them clear and avoid dishwasher repairs down the road. Hard water deposits can be removed by running an empty cycle and using a commercially available dishwasher cleaner.

- **Greasing**

Greasing Kitchen mixers

Kitchen mixers have lots of gearing. Those gears require a lot of grease to keep things running smoothly. Over time, that grease breaks down and the oil will start to separate out and leak out of your mixer. It is food grade grease and poses no risk, but it can get messy and who wants their cookies tasting like grease. Luckily it is an easy fix.

Step 1: Remove Back Cover

First take off the back cover by removing the screw on top of the mixer. With the cover off, pull the power chord out of the slot.

Step 2: Remove Planetary

Next we remove the planetary. Use a screwdriver to pry off the drip ring. Careful. Depending on how bad your mixer is leaking, the ring may be full of oil. Then use a punch to drive the dowel pin out of the shaft. The planetary can then be gently pried off.

Step 3: Remove Housing

To remove the upper housing, first remove the five screws around the planetary gear. Then remove the four screws on the bottom of the housing. One of those screws will have a lock washer on it. Make a note of where it came from. With all nine screws removed, you can pry off the upper housing.

Step 4: Scrape Out Old Grease

Inside you will find a mess of old grease. Use something to scrape out as much as you can.

Step 5: Remove Gears

Once most of the grease is gone, you can pull out the gasket, center gear, hub gear, and shaft. Then separate the worm gear assembly by removing the three screws that hold it on.

Step 6: Clean Parts

Wipe all of the parts down with an old rag to remove as much grease as possible. Then soak and/or scrub in your favorite degreaser. I ran my parts through an ultrasonic cleaner in a heated bath of Simple Green. The upper housing was just sprayed down with Simple Green and wiped out because of the motor.

Step 7: Replace Gears

Now it's time to reassemble. The worm gear assembly can be replaced first. Then the shaft and center gear can be installed. Make sure to install the paper washers in the correct locations and replace the gasket.

Step 8: Grease

Pack everything in fresh grease. Try to add the same amount as you removed. Rotate the gears by hand to make sure the grease is distributed everywhere, and things are moving smoothly. The hub gear can be greased and installed in the upper housing. Also pack grease around the motor gear in the upper housing. Add some grease to the planetary gear as well.

Step 9: Replace Housing

Place the upper housing on the mixer. Replace the four screws through the lower housing, making sure the screw with the lock washer goes in the correct location. Then replace the five screws around the planetary gear.

Step 10: Install Planetary

Slide the planetary over the shaft and replace the dowel pin to lock everything in place. You may need an awl to help line the holes up. With the planetary installed, move it by hand to make sure it rotates freely. Tap the drip ring back in place with a rubber mallet.

Step 11: Replace Back Cover

Slide the power chord back into place and install the back cover. Replace the screw that holds it in place.

Step 12: Bake!

Give the exterior a final wipe down to get it nice and clean and you are done! Your mixer is ready for the next culinary adventure.

- **Sharpening**

- ✓ **Electric Sharpeners**

Many electric sharpeners utilize a 2 or 3 step process for creating, sharpening, and honing the edge on a blade. The first step utilizes a coarse grit to sharpen extremely dull blades and the last step uses a fine grit for honing sharp blades. When turned on, a sharpener will spin the sharpening stones, which, when a knife is drawn through the slots, sharpens blades to the desired sharpness. Most electric sharpeners have guides that allow the user to get the perfect angle, which makes them popular because they greatly simplify the precise task of sharpening knives.

- ✓ **Sharpening / Honing Steels**

This is a carbon steel bar with either a wooden or polypropylene handle. It is used for sharpening all knives. Contrary to the name, most sharpening steels don't actually sharpen knives. The primary job of a sharpening steel is to hone a knife blade, though certain cuts, or

styles, are able to do minor sharpening; however, steels that do sharpen knives should not be used in place of the above sharpeners. The four most common cuts are regular, diamond, combination, and ceramic. The differences between cuts are rather minimal, and choosing between them mainly depends on whether you want to have the option of sharpening and how much you are willing to spend. It is also recommended that you use sharpening steels with a matching knife brand because manufacturers specifically design their steels to hone their knives.

Regular cut steels are the most common and well known, as they are made from steel.

Diamond steels feature a coating of diamond abrasives similar to what can be found on some sharpening stones. Combination cut steels combine a smooth surface for honing and a rough surface for minor sharpening.

Ceramic cut steels, as the name implies, is made of ceramic and can be used for minor sharpening to help align the blade.

✓ **Serrated Knife Sharpeners**

Serrated knives can be difficult to sharpen with a stone due to the shape of the blade, and most common sharpeners, both manual and electric, will actually damage your serrated blades if used with them. However, there are certain knife sharpeners that are able to accommodate serrated blades, so you should always check the sharpener before purchasing. Manufacturers will state whether their sharpeners can be used with serrated blades in their manual or literature. We also provide this information in our product descriptions.

✓ **Handheld Sharpeners**

Similar to electric sharpeners, handheld knife sharpeners simplify the sharpening process, though they are generally limited by having fewer slots to sharpen with. One advantage handheld sharpeners do have is their portability. Their small size and manual operating method make them perfect for cooking professionals who frequently find themselves traveling. Depending on how the handheld sharpener is designed, you either draw the knife through the slots while the sharpener is placed on a flat surface, or the sharpener is drawn down the length of the blade while the knife is carefully held spine-down on a table or

countertop. Both types of handheld sharpeners easily sharpen a dull knife back to perfect cutting form.

✓ **Sharpening Stones**

Sharpening stones are one of the most common ways to sharpen a knife. The three most common materials sharpening stones are made of are Novaculite, aluminum oxide, and silicon carbide and they are commonly known as Arkansas, India, and Crystolon stones respectively. Arkansas stones are natural stones, while India and Crystolon are man-made. Arkansas stones vary from fine to coarse in grit type, where India stones are better suited for fine sharpening and Crystolon are better for initial coarse sharpening. Some stones have diamond abrasives mixed in to get the optimal cutting edge.

● **Fixing and Manipulating**

✓ **Cookers and ovens**

Stoves

A large variety of stoves are available operated by gas, electricity, solid fuel, oil, microwave plus convention. Solid tops should be washed clean or wiped clean with a pad of sacking. When cool the stove tops can be more thoroughly cleaned by washing and using as abrasive. Emery paper can also be used if necessary. After any kind of cleaning a solid top should always be lightly greased.

On the top of stove all the bars and racks should be removed, immersed in hot water with detergent, scrubbed clean, dried and put back in place on the stove. All gas jets should then be lit to check that none are blocked. All enamel parts of stoves should be cleaned while warm with hot detergent water, rinsed and dried.

The inside of ovens and even racks should be cleaned while slightly warm, using detergent water and a mild abrasive if necessary. In case of extreme dirt or grease being baked on the stove or oven a caustic jelly may be used, but thorough rinsing must take place afterwards. Oven doors should not be slammed, as this is liable to cause damage.

The unnecessary lighting or the lighting of ovens too early can cause wastage of fuel, which is a waste of money. This is a bad habit common in many kitchens. When a solid top gas range is lit, the center ring should be removed, but it should be replaced after approximately 5 minutes, otherwise unnecessary heat is lost.

Convention

These are ovens in which a circulating current of hot air is rapidly – forced around the inside of the oven by a motorizing fan or blower. As a result a more even and constant temperature is created throughout the oven, which allows food to be cooked successfully in any part of the oven. This means that the heat is used more efficiently. Cooking temperature can be lower, cooking times shortened and overall fuel economy achieved

Forces air convention can be described as fast conventional cooking: conventional in that heat is applied to the surface of the food but fast since moving air transfers its heat rapidly than does static air. In a scaled oven fast hot air circulation reduces evaporation losses, keeping shrinkage to a minimum, and gives the rapid change of surface texture and colour, which is traditionally associated with certain cooking process.

There are 4 types of convention oven:

1. Where forced air circulation within the oven is accomplished by means of a motor driven fan, the rapid air circulation ensures even temperature distribution to all parts of the oven.
2. Where low velocity, high volume air movement is provided by a power blower and duct system.
3. A combination of a standard oven and a forced convention oven designed to operate as either by the flick of a switch.

A single roll-in rack convention oven with heating element and fan house outside the cooking area. An 18 shelf mobile oven rack makes it possible to roll the filled rack directly from the preparation area into the oven

Microwave cookers

Microwave is a method of cooking and heating food by using high frequency power. The energy used is the same as radio, which carries television from the transmitter to the receiver but is at a higher frequency.

The waves disturb the molecules or particles of food and agitate them, thus causing friction which leaves the effect of cooking in the whole of the food, whereas in the conventional method of cooking, heat faster cooking time, easy maintenance, hygienic, safe, improved working environment (less heat in the kitchen)

However, induction tops are expensive and special cooking utensils are required. Any non magnetic material does not work and aluminum and copper are unsuitable. Stainless steel enameled ware, iron and specially adapted copper pans are suitable

Steamers

There are 4 types of steamers:

1. Atmospheric steamer
2. Pressure steamer
3. High comparison steamer
4. Pressure less convention steamer

The atmospheric steamer is a pressure less. It has a boiling water bath in the bottom of the steaming compartment and a vent so that the steam does not rise above atmospheric pressure. For this reason the door can be opened safely at any time, although some steam is lost. Heat source can be gas or electricity.

The pressure steamer is constructed with the pressure safety valve, which only allows steam to escape on reaching a certain pressure. Foods cooked in this type of steamer cook quicker than in the atmospheric steamer. Care must be taken when opening the door, it should be opened slowly so as to allow pressure to go down and no one should be close to the escaping steam. When opening the door stand on the hinge side.

If the atmospheric and pressure type steamers are operated by gas or electricity then an automatic water supply by half valve is provided to ensure a constant level of water in the steam generating tank. It is important to see that the tap controlling the supply of water to the valve is working correctly and that the ball valve arm and washer are both inefficient working order. If these precautions are not taken there is danger of the generating tank burning dry and becoming damaged.

Some pressure steaming ovens heat source is from the main steam, supply. This type of equipment is fitted with a gauge, which registers the steam pressure being supplied, and as overflow valve, which gives a warning whistle if pressure is allowed to rise to a dangerous level. It is essential that a qualified engineer to ensure that they are working correctly check both the gauge and valve.

The high comparison steamer is similar in principle to the pressure steamer but works at a higher pressure, therefore the food cooks more quickly. This equipment is usually fitted with a timer and is designed to batch cook fresh or frozen vegetables in 1-5 minutes; however it does not have a large capacity.

Pressure less convention steamers cook at a low temperature with a convention fan in a pressure less air-free compartment. The steam generator is fitted under the steamer in a separate compartment and it generates purified steam under pressure, which is introduced into the cooking compartment.

Cleaning of steamers is essential, trays and runners should be washed in hot detergent water. The water generating chamber should be cleaned and refitted and the inside of the steamer cleaned with detergent water and rinsed. Steamer door controls should be lightly greased occasionally and the door left open slightly to allow air to circulate when the steamer is not in use.

✓ Cutting boards

A cutting board (also known as a chopping board) is a kitchen utensil used as a protective surface on which to cut or slice things. Cutting boards are often made of wood, plastic or cork. Glass cutting boards are also available, and although easy to clean, may dull or damage a knife during use.

Sanitation of cutting boards is crucial in preventing cross contamination and food poisoning. Simply washing a cutting board after use is not sufficient to prevent the growth of bacteria. Boards and knives, regardless of the material from which constructed, must be sanitized after each use with a solution of bleach and water. It is also advisable to cut raw meat, especially poultry products on a separate board from cooked meat or other food items. Cork boards are naturally anti-bacterial and do not require the same kind of maintenance as a wood or plastic board. To prevent a cutting board from moving or sliding during use, place a clean, slightly wet, kitchen or side towel between the counter and board. The wood can be maintained with the addition of rubbing it down in mineral oil after washing, do not use vegetable oil as this can go rancid.

Cutting board used according to their color code use

- **Green:** Fruits & Vegetables

- **Yellow:** Raw Poultry
- **Blue:** Fish & Seafood
- **White:** Bread and Dairy Products
- **Brown:** Cooked Food
- **Red:** Raw Meat

Cutting board Material: Cutting boards come in a variety of materials from plastic to wood and glass. Plastic cutting boards prove to be more versatile, in that they can be used with meat and vegetables and easily cleaned. Wood sometimes feels better and more gentle on your knife, but it can be heavy and more difficult to maintain because it often needs treating with oil to prevent cracking. Bamboo is a lightweight, easy-to-care for option, but it doesn't seem to last as long as other cutting board materials. We do NOT recommend ever using glass because it can dull your knife quickly and leave you at risk slippage and injury while slicing; glass cutting boards can also crack or shatter.

✓ Kitchen knives

Types of knives used according to food item to be portioned

Knives are one of the basic, yet most important tools of the kitchen. A good quality knife increases kitchen productivity as well as improves our culinary skills

1. Chef's Knife

A chef's knife is a multipurpose and most common kitchen tool that effortlessly dices vegetables and cuts meats. Every chef recommends this knife for quick chopping and slicing food.

2. Chef's knife, Vegetable knife (103 or 155 mm / 4 or 6 inches): this knife has a small shaped handle and a short carbon steel or stainless steel blade it is used for fine preparation, vegetable pairing and finishing.

3. Chef's knife (205 mm / 8 inches): This is with longer and heavier blade (305mm / 10 to 12 inches) and are usually made from carbon steel, but can be stainless steel they are used for all preparations and chopping. The knife is rocked, using the whole length of the blade for effective chopping.

4. Serrated Utility Knife

This knife looks similar to a bread knife but a shorter and sharper version. This knife is also referred to as 'Sandwich knife' or 'Tomato Knife' and could be used for small slicing jobs such as fixing sandwiches and cutting bagels as well.

5. Paring Knife

The Paring (trim) Knife is typically used for carrying out (act/do) intricate (complex) works such as peeling food, deveining shrimps (remove seafood...), and creating food carving (cut to make something) and garnishes such as juliennes

6. Boning Knife

The Boning Knife is designed to separate bones from meat seamlessly. They come in two varieties 'Firm' (hard) and 'Flexible'. The firmer knife is used to debone beefs while the flexible blade suits better to cut chickens. This is used for boning of raw or cooked meat. The carbon steel blade must be sharpened regularly.

7. Cleaver

A Cleaver Knife is what we call the Villain's Knife in movie language. Cleaver is must in restaurants which cleave large quantity of meats and bone; it essentially is not required in home kitchens.

8. Bread Knife

It is a longer and larger version of Serrated Utility Knife. They are only used to cut clean through bread loaves (bread baked in mass) without crumbling them.

9. Carving Knife

It is a longer and thinner (narrow) version of a Chef's Knife and has a lengthy and sharp edge that is used to thinly slice thicker (wide) meats or large food items such as roasts.

10. Butcher Knife

This Knife has a wide belly and clip (cut) points that let us to segment (divide), slice and trim large fruits such as watermelons, papaya, pineapple, and pumpkin.

11. Filleting knife: This has a long, flexible carbon steel or stainless steel, (155mm / 6 inches) blade. It is used for skinning and filleting of fish.

12. Palette knife: This has carbon steel or stainless steel blades, 155, 205, 255 or 305 mm long. They are used for moving prepared food, turning cooked food and lifting cooked food from oven trays. Also used for icing cakes.

13. Paring knife: Small knife 100 to 120mm / 4 to 5 inches, used for cutting, peeling vegetables, etc.

14. Peeler

Kitchen utensil used to peel the outer skins of fruits and vegetables such as apples and potatoes.

15. Tourné knife

A tourné knife is a paring knife with a short, curved blade. They're also referred to as "bird's beak" knives, but a more appropriate name might be Azazel, Inciter of Anguish. You see, the primary function of this demonic blade is to "turn" a vegetable into a two-inch-long, seven-sided football.

Tourné knives can cut decorative garnishes, such as rosettes and fluted mushrooms. Classically, they are used to make a tournee cut in vegetables such as carrots. Their blades tend to be of short length with a pointed tip that curves downwards toward the blade.

Safe work practices, particularly with regard to using knives

Accidents involving knives are common in the catering industry. These are steps to prevent knife accidents.

- ✓ Train employees in the safe use of knives and safe working practices when sharpening them
- ✓ Use a knife suitable for the task and for the food you are cutting
- ✓ Keep knives sharp

- ✓ Cut on a stable surface (possible service)
- ✓ Handle knives carefully when washing up
- ✓ Carry a knife with the blade pointing downwards
- ✓ Store knives securely after use, eg in a scabbard (knife container) or container
- ✓ Don't try to catch a falling knife
- ✓ Don't use a knife as a can opener
- ✓ Don't carry knives while carrying other objects
- ✓ Don't Carry a knife in your pocket

✓ **Fridges**

Large kitchen appliance used to store food and keep it cold; usually has a freezer compartment used to store frozen food items. Chilling equipment, Blast chillers or air blast chillers -They use rapidly moving cold air to chill the food evenly and rapidly. Cryogenic batch chillers - These use liquid nitrogen to rapidly chill warm food by producing a very cold gas.

Storage Equipment. Once chilled to correct temperature food will be kept in a refrigerator at between 0-4°C

✓ **Freezers**

Freezing equipment, Air blast freezers or blast freezers: They use rapidly moving cold air (-32°C to -40°C) to freeze the cooked food evenly and rapidly within 90 minutes. Cryogenic freezers: These use liquid nitrogen to rapidly freeze warm food by producing a very cold gas. Plate freezers and tunnel freezers: These are used in food manufacturing and are less likely to be used in catering.

Finishing kitchen equipment. Rapid thawing cabinet. Ovens, hobs, water baths, microwave etc.

● **Kitchen appliances**

✓ **Commercial can opener:**

1. Affix platform securely to a firm work surface, using bolts provided and/or the screw clamp.
2. Slide can opener tube through aperture in platform.

3. Position can on platform and, with handle in vertical position, punch blade through lid. Ensure blade is fully inserted into can and can opener body is resting on top of can.
4. Lower handle 90 degrees into horizontal position.
5. Open can by turning handle clockwise. Raise handle back to vertical position to release and remove can.

✓ **Deep Fryer**

Step 1: Pour in oil up to maximum fill line

Most electric deep-fryers use between 6 and 19 cups of oil; our winner uses slightly under 15 cups. This is more than enough oil for most of our recipes; when deep-frying in a Dutch oven, we typically use 8 to 12 cups. You can use either peanut or vegetable oil; we have no distinct preference in the test kitchen. Don't be tempted to put more oil in! You don't need it, and if there's too much oil, the bin can overflow when you put food in.

Step 2: Turn on

Check if the fryer is safely connected to electricity and press the start button.

Step 3: Set temperature

The greatest advantage of an electric deep fryer is that once you set its temperature, the appliance will automatically regulate the temperature for you no need to fuss with the controls or use an additional thermometer to check on it. All the fryers we tested were reasonably accurate within the temperature ranges we chose, too.

Step 4: Once oil is at desired temperature, add food to basket and lower into oil

Electric deep fryers heat up oil fairly quickly our winner takes 14 to 15 minutes, depending on the temperature chosen, compared to about 20 minutes for the same amount of oil in a Dutch oven. You'll know when our winner is at the right temperature because the indicator light on the console will switch off. We recommend adding delicate food (such as doughnuts) or battered/breaded foods (such as fried chicken) in a single layer to the basket to encourage even cooking and prevent individual pieces from sticking together.

Step 5: Cover

Most electric deep fryers can be covered in order to contain spatters while the food inside is cooking a benefit that helps keep your counters clean. The fryers do such a great job of regulating the temperature that as long as you haven't exceeded the volume of oil recommended and don't overcrowd the fryer, the oil and food should sit low enough in the fryer that there is no risk of the unit overflowing, as there might be if you covered a Dutch oven.

Step 6: Raise basket and remove food

We love the baskets that came with most of the electric deep fryers we tested. They allow you to remove all the food in the fryer at once and can be latched onto a hook on the side of the fryer to allow excess oil to drain.

- **Dough mixer**

1. Place Mixer on a Flat Surface and Plug it in

Begin by placing the mixer on a flat surface near a power outlet. Aside from being flat, the surface should be sturdy to provide the machine with stability. In most cases, a countertop will be the best surface. Once in place, plug the mixer into the nearest outlet. Most electric mixers will use a 1000 watt motor, meaning they can be plugged into any standard home outlet.

2. Choose the Type of Mixing Blade

Mixers can be used with several different mixing blades depending upon the type of food being mixed. While there is no shortage of different types, there are four options that have proven to be the most common: Flat Beater, Whip, Dough Hook, and Flat Edge Beater.

Flat Beater – The Flat Beater is the most used attachment and works for mixing, stirring, and blending. If you plan on making brownies, cookies, or donuts, the Flat Beater is the best choice.

This attachment can also be used to cream butter, mash potatoes, and even make guacamole. If you're ever in-doubt as to which attachment to use, the Flat Beater is a safe bet.

Whip – The whip attachment provides an alternative to hand whisking and can be used for making whipped cream or beating eggs. It's worth pointing out that the whip blade shouldn't be used for mixing dough or cake mixtures as this could damage the attachment.

Dough Hook – Most dough hooks are C-shaped and are used to knead dough, especially when making bread, pizza, pastas, and pretzels. For extra tough dough, a spiral hook is sometimes used. Unlike the C-shaped dough hook, the spiral hook works by pushing dough from the bottom of the bowl to the top.

Flat Edge Beater – The Flat Edge Beater is essentially a Flat Beater with a rubber or silicone covering on the outer edge. This covering allows the attachment to better scrape the sides of the mixing bowl. This type of blade is useful when mixing ingredients that tend to stick to the sides of the bowl. Like honey or jams.

Once the appropriate blade has been selected, attach it to the head of the mixer. Some models may have a locking mechanism that must be engaged while others lock automatically once the blade has been inserted.

3. Fill Mixing Bowl with Food

Before you get to mixing, you must first fill the bowl with food. The average mixer bowl comes with a 5.5 qt capacity and how much you can fill it depends upon the type of food material you're mixing. For example, kneading dough is much harder on the machine than whisking eggs. When kneading dough, try not to fill the mixing bowl more than two thirds of the way full.

4. Pull Mixing arm Down and Lock into Place

When you're ready to start mixing, pull the mixing arm down and lock it into place. Most mixers will have a button or toggle on the side of the machine body that you can use to engage the locking mechanism.

5. Choose Setting and Hit Start

At this point, all that's left to do is choose the appropriate setting, hit start, and wait for the process to end. The average 5-quart food mixer comes with speed settings that work on a

scale of 1 – 10. Most recipes will use language like “mix on medium-low speed” which may be confusing for some people. To better understand what these terms mean, read below.

Low – The low setting is best used when mixing dry ingredients like flour and food with low water content like most batters. Regardless of what you’re mixing, it’s a good idea to always start at this speed and increase as required. ‘Low’ can be engaged by selecting 1 or 2.

Low-Medium – Most heavy batters like cookie dough and cake mix will require the Low-Medium setting. The Low-Medium setting is also applicable for beating eggs or heated butter. The Low-Medium setting can be engaged by selecting 3 or 4.

Medium – When it comes time to finish a batter mix, the medium setting is typically the last step. It’s also great for churning butter and mashing potatoes. The Low-Medium setting can be engaged by selecting 5 or 6

Medium-High – For beating or whisking eggs at high speeds, the Medium-High setting is the best option. It’s important to keep in mind that trying to mix heavy batters at this speed may result in damages to the blade or motor. The Medium-High setting can be engaged by selecting 7 or 8.

High – The high setting should be used when making whipped cream or whisking eggs whites. Like the Medium-High setting, High should only be used with foods of low density. The High setting can be engaged by selecting 9 or 10. It’s a good idea to work up to whatever setting you believe is best for the job. How long you spend at each intermediate step will depend upon what food material you’re mixing and what consistency you’re after.

True or False Questions

1. Ceramic food containers are typically the most decorative out of all the various types of food containers and ceramic is a very sturdy and durable material, making it an excellent choice for food containers.

True

False

Answer:.....

2. An electric cooker is an electric powered chilling device for cooling and chilling of food. so that food that is put in it stays fresh.

True

False

Answer:.....

3. Freezers and refrigerators are important kitchen equipment used to keep food fresh for as long as kitchen need to invest in quality freezers and refrigerators.

True

False

Answer:.....

4. Tourné knives are used to cut decorative garnishes, such as rosettes and fluted mushrooms. And classically, they are used to make a tournee cut in vegetables such as carrots.

True

False

Answer:.....

Open Ended Questions

1. State three categories Kitchen equipment and give out two examples on each one?

Answer:.....
.....

2. What are types of ovens mostly used in catering establishments and explain their use?

Answer:
.....
.....

Multiple choice questions

1. Which one of the following is not kitchen tool:

- a. Plastic Food Containers
- b. Glass Food Containers
- c. Vacuum Pouches
- d. Dishwashers
- e. Metal Cans
- f. Aluminum Food Containers
- g. Carving Knife

Answer:.....

2. What knife is a multipurpose and most common kitchen tool that effortlessly dices vegetables and cuts meats. Which every chef recommends for quick chopping and slicing food?

- a. Serrated Utility Knife
- b. Chef's knife
- c. Cleaver
- d. Carving Knife
- e. Butcher Knife
- f. Filleting knife
- g. Palette knife
- h. Paring knife
- i. Tourné knife

Answer:.....



Points to Remember

Some kitchen tools and equipment are harmful and can cause accident, so they should be handled with care.

Blender base should be damp wiped not washed in water for avoiding electrical hazards.

Ovens and other kitchen equipment should be handled basing on Manufacturer's instructions to avoid miss use or accident.

Fryers should be filled in half away to avoid drop of oils

Can openers should be cleaned on a regular basis, appropriate to the amount of use.

Clean with hot water and brush, rinsing with clean water.

Don't use detergents or soap etc, detergents can affect durability of plated surfaces.

Dry can opener thoroughly.

Wheel contact surfaces may be protected against corrosion with vegetable oil.



Self Reflection

At the end of every unit you should:

- 1) Re-take the self assessment you did at the beginning of the unit.
- 2) Fill in the table below and share results with the trainer for further guidance.

Areas of strength	Areas for improvement	Actions to be taken to improve
1.	1.	1.
2.	2.	2.

Further Information for the Trainee

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UNIT 2: SELECT FOOD COMMODITIES



Figure 6: Selecting food commodities for mise en place

Unit summary:

This unit described the knowledge, skills and attitudes needed to identify and use different kitchen tools and equipment.

Kitchen tools and equipment were identified, and kitchen tools and equipment were used.

2.1 Identification of food commodities

2.2 Identification of purchasing factors for food commodities

2.3 Food flavorings and seasonings

Self-Assessment: learning outcome 2

1. Look at the illustration. What is happening? What do you think this learning outcome will be about?

3. Fill in the self assessment below.

There is no right or wrong ways to answer this survey. It is for your own use during this course. Think about yourself: do you think you can do this? How well? Read the statements across the top. Put a check in column that best represents your situation. At the end of this learning outcome, we will take this survey again.

My experience	I don't have any experience doing this.	I know a little about this.	I have some experience doing this.	I have a lot of experience with this.	I am confident in my ability to do this.
Knowledge, skills and attitudes					
Define food commodity.					
Explain animal-based food commodities.					
Identify plant based-food commodities.					
Select the food flavorings and seasonings.					
Describe the key purchasing factors for food commodities.					

Table 3:Self-Assessment:Unit 2

Key Competencies:

Knowledge	Skills	Attitude
1. Identify animal-based food commodities	1. Select animal-based food commodities	1. animal-based food commodities are handled with care
2. Identify plant based-food commodities	2. Select plant based-food commodities.	2. plant based-food commodities are selected properly
3. Explain the key purchasing factors for food commodities.	3. Apply the right methods for purchasing food commodities	3. Food commodities are purchased effectively.

Table 4:Key Competencies: Unit 2



Discovery activity



Task:

Activity1: Task1

Discuss the following questions with your partner (pair):

1. What does food commodity mean?
2. Explain animal-based food commodities?
3. Identify plant based-food commodities.
4. Describe the 5 key purchasing factors for food commodities?

Discuss with your pair all the questions (1., 3., 4)

Share your findings on the questions (2) with the rest of the class. Compare and discuss your ideas.

Response:

Answers for the above questions

Definition of food commodity.

Larger chef's knives are used for cutting meat, dicing vegetables, disjuncting some cuts, slicing herbs, and chopping nuts. Carving knives are used for slicing and carving dense meats. Slicing knives are used for cutting thinner slices of roast, fruit, and vegetables.

Explanation of animal-based food commodities

Foods of animal origin, such as milk and milk products, eggs, meats, poultry, and fish, have excellent amino acid composition with a score of 100% and true protein digestibility of 95–98%. In addition, their protein concentrations often increase after cooking.

Identify plant based-food commodities

Plant-based foods are generally classified into fruits, vegetables, legumes, grains, nuts, and seeds; their derived processed counterparts such as breads, pasta, breakfast cereals, cooked and fermented vegetables and legumes, and fruit purées, juices, and jams; and their derived ingredients such as oleaginous seed.

Key purchasing factors for food commodities

- Naturalness (extent to which food is produced without modern technologies)
- Taste (extent to which consumption of the food is appealing to the senses)
- Price (the price that is paid for the food)
- Safety (extent to which consumption of food will not cause illness)
- Convenience (ease with which food is cooked and/or consumed)
- Nutrition (amount and type of fat, protein, vitamins, etc.)
- Tradition (preserving traditional consumption patterns)
- Origin (where the agricultural commodities were grown)
- Fairness (the extent to which all parties involved in the production of the food equally benefit)
- Appearance (extent to which food looks appealing)
- Environmental Impact (effect of food production on the environment)
- Quality
- Farming methods
- Health

Topic 1.1: Identification of food commodities



Figure 7: Identification of food commodities for mise en place



Activity 1: Problem Solving



Task: 1

1. Sit in group of 4-5 and discuss on situation written as follow:
 - a.” King hotel Executive chef has purchased food commodities from Gasaro supermarket. On receiving day, he requests you to select ingredients needed for preparing lunch.
2. Read the situation, and discuss and brainstorm answers to the following questions:
 - a. List all the ingredient that King hotel Executive chef will need lunch menu
3. Take a time to trainees to brainstorm and discuss the questions in your respective groups.

Key Facts (Indicative contents)

- **Identification of food commodities**

- ✓ **Definition of food commodities**

Food commodities are the basic necessity of man. They are composed of different nutrients such as carbohydrate, protein, fat, vitamins and minerals. These nutrients are essential for growth, development and maintenance of good health throughout life. They also play a vital role in meeting the special needs of pregnant and lactating women and patients recovering from illness.

- ✓ **Animal based food commodities**

Meat is edible tissue of animals made of muscles, fat, bones and connective tissues. Meat refers to the flesh of warm blooded, four legged animals chiefly cattle, sheep and pigs. Meat of sheep which is under 12 months age is sold as lamb. After the age of 12months, it is called mutton.

- **Classification of red meat**

- ✓ **BEEF**

Beef is meat from the carcass of domestic family of Oxen (Cow, Steer, Bull and Heifer)

Quality of good Beef meat

- Meat should be bright red in color

- There should be marbling of fat through the meat
- The fat should be firm and brittle in texture
- Fat should be white in color
- There should be no smell

Beef cuts and their methods of cooking

THE FOREQUARTER BEEF CUTS	COOKING METHODES
Fore rib	For roasting and braising
Middle rib	For roasting and braising
Chunk rib	For stewing and braising
Plate	For stewing and sausage making
Brisket	For boiling
Shank	For making consommé and Beef tea
Neck	For minced meat
Bones	For stock making

THE HINDQUARTER BEEF CUTS	COOKING METHODES
Shin	For making consommé and Beef tea
Topside	For stewing and braising
Silverside	For boiling
Think flank	For braising and stewing
False fillet	For boiling, stewing and braising
Rump	For grilling, frying as steaks and braising in the piece
Sirloin	For roasting, grilling and frying in steaks
Wing ribs	For roasting, grilling and frying in steaks
Thin flank	For stewing, boiling and sausage making
Fillet	For roasting, grilling and frying in steaks

Table 5: Beef cuts and their methods of cooking

Source: edited by Author from: <https://www.howtocook.recipes/every-cut-of-beef-explained/>

- **VEAL**

Veal is meat from young calves, slaughtered when they are about six months old.

Quality of good Veal meat

- ✓ The meat itself should be creamy pink, and any fat covering should be milky white
- ✓ Flesh should be pale pink and firm - not flabby or soft
- ✓ Cut surfaces should be moist not dry
- ✓ Bones should be pinkish white with a little blood in their structure
- ✓ Fat should be firm and pinkish white
- ✓ Kidney should be firm and well covered with fat

Veal cuts and their methods of cooking

The same as Beef

- **PORK**

The Pork is meat from Pigs. Pork is the meat of swine (pig) slaughtered between the age 5 and 12 months.

Quality of good Pork meat

- ✓ Flesh should be pale pink
- ✓ Fat should be white firm and smooth
- ✓ Bones should be small and pinkish white
- ✓ Skin or rind should be smooth

1.4.4. Pork cuts and their methods of cooking

The hand provides an economic roasting joint, but being bone-in, can be awkward to carve. It can be boned and rolled, or cubed for kebabs.

Neck-end

This provides collar spare ribs that can be boned and rolled to provide good sized roasting joints. Chops can be sold bone-in or boneless. They are ideal for grilling, braising or frying, but can also be diced for casseroles.

Loin

The loin produces a variety of cuts, including bone-in ribs, loin chops, boneless steaks and joints, all with the rind on or off. Chops and steaks can be quickly cooked by grilling, frying, roasting, microwaving.

Belly

Slices may be coated or marinated. New style slices are lean, boneless and provide an alternative to the traditional belly pork. Joints are usually boned and rolled and often stuffed. The belly is suitable for grilling, frying, roasting, cooking in the microwave. Spare ribs cut from the loin and belly area can be cut into individual riblets. They are ideal for grilling, or roasting and are often sold 'kitchen-ready' in a Chinese style marinade.

Chump

The chump provides a variety of cuts, including chump chops, boneless chump steaks and the chump-end roasting joint, which is sold either bone-in or boneless. Thinly sliced chump steaks can be beaten flat into escalopes. Chump steaks make a good substitute for the more expensive fillet. When trimmed the chump is ideal for producing cubes for kebabs or strips for stir-frying. The chump is suitable for grilling, frying, braising, roasting, for cooking in the microwave.

Leg and Shank

The leg is traditionally cut into two main joints, the fillet end and the shank, both sold bone-in. Boneless rolled roasting joints are becoming increasingly popular and are easy to carve. Leg joints are ideal for the foodservice carvery. Leg steaks are convenient, suitable for cooking quickly by grilling, frying or in the microwave. Lean steaks can also be thinly sliced into strips for stir-frying, or can be diced.

Diced

Diced pork is usually produced from the hand, neck-end, chump or leg. It is ideal for casseroles or stir-frying. When cut into even sized cubes it is ideal for kebabs.

Mince

Mince can be prepared from any combination of cuts but is usually prepared from the fore-end or hand. It is lean, versatile and economical. Used in the foodservice sector its versatility

makes it ideal for use in products such as burgers or grill sticks. Suitable for quick cooking, it can be fried and micro-waved. Pork products are ideal to grill

Sausages

Sausages and sausage meat can be produced from any combination of pork cuts, but are usually prepared from the shoulder or belly.

- **LAMB**

Lamb is the young sheep generally weighs between 41 and 75 pounds (20 to 35 kg). (Lamb meat is generally from animals that have been reared for five months)

Quality of good Lamb meat

- ✓ Carcass should be compact and flesh evenly distributed
- ✓ Flesh should be firm and a dull red colour and the grain should be fine
- ✓ Fat should be evenly distributed, hard, brittle, flaky and a clear white colour
- ✓ Bones are porous in young animals.

Lamb cuts and their methods of cooking

- ❖ Best cuts for grilling: Cutlets, Chops and Noisettes
- ❖ Best cuts for Stewing: Breast, Scrag end or shoulder
- ❖ Best cuts for Roasting: Shoulder, Leg, Loin

- **MUTTON**

Mutton refers to meat from sheep that are over two years old. Traditionalists argue that mutton is always the meat from a wether (a wether is a castrated male sheep; it is thought that castration improves the taste of some meats).

Quality of good Mutton meat

- ✓ Carcass should be compact and flesh evenly distributed
- ✓ Flesh should be firm and a dull red colour and the grain should be fine
- ✓ Fat should be evenly distributed, hard, brittle, flaky and a clear white colour
- ✓ Bones are porous in young animals

Mutton cuts and their methods of cooking

Check the Lamb

- **GOAT**

The goat is a domestic animal usually bred for milk. Many recipes and dishes use goats cheese and goat meat is regaining its popularity.

Quality of good Goat meat

- ✓ Carcass should be compact and flesh evenly distributed
- ✓ Flesh should be firm and a dull red colour and the grain should be fine
- ✓ Fat should be evenly distributed, hard, brittle, flaky and a clear white colour
- ✓ Goat meat has "no smell unless it's a buck in rut just as buck deer in rut have a musk smell from the oil produced by the scent glands.

Goat cuts and their methods of cooking

Goat Meat can be treated much like lamb. If it is young it is best eaten slightly pink. The older it is the more suitable a marinade (red wine, garlic, onions, herbs) is to tenderise and the slower the cooking should be. If in doubt braise the goat in a low oven with its marinade for several (approx 2) hours till tender then reduce and thicken the cooking liquor.

- **OFFAL**

Offal is the name given to the edible parts from inside the carcass such as liver, kidney, heart and sweetbreads. Tripe, brains, tongue oxtail and the head are often included under this term.

Types of offal¹, Quality and their Methods of Cooking

Tripe

Tripe is the stomach lining or white muscle of beef cattle. Honeycomb tripe is from the second compartment of the stomach and is considered to be the best. Smooth tripe is the first compartment. Sheep tripe is darker in colour and may be available in some areas. Typically, tripe is boiled or braised.

Oxtail

Oxtails should be around 1.5 - 1.75 kg - 5 - 5lb in weight

They should be lean with no stickiness

They are usually braised or used for soups

Bones

Bones must be fresh and not sticky. They are used for stock which is the base for soups and sauces.

Liver

Calves liver is considered to be the best in terms of tenderness and delicacy of flavour and is the most expensive. Lambs liver is mild in flavour and tender. Pigs liver is full flavored and used for pates. Ox liver or beef liver can be coarse in texture and strong in flavor.

Kidney

Lambs kidney is light in colour and flavour and ideal for grilling or frying. Calves kidney is similar to lambs and widely used. Ox kidney is dark colored and strongly flavored and usually used mixed with steak for pies and puddings. Pigs kidneys are smoother, longer and flatter than a lambs. Kidney and has a strong flavor.

Hearts

Ox and beef hearts are the largest used for cooking. They are dark in color, solid and tend to be dry and tough. Calves hearts are lighter and more tender as they are younger. Lambs hearts are smaller and lighter and usually served whole. Larger hearts are sliced before serving.

Tongue

Tongues must be fresh. They should not have an excessive amount of waste at the root end. Ox tongues are used fresh or salted. Sheep tongues are used unsalted.

Sweetbreads

Sweetbread is the name given to two glands. One is the Pancreas and is regarded as the best as it is round, flat and plump, the other is the thymus gland (shown) which an elongated sausage shape is.

✓ Classification of White meat

- **CHICKENS**

Chickens are medium-sized, chunky birds with an upright stance and characterized by fleshy red combs and wattles on their heads. Males, known as cocks, are usually larger, more boldly colored, and have more exaggerated plumage than females (hens).

Types of Chickens

Adult male chickens are known as cocks.

Males under a year old are cockerels.

Castrated males are called capons (though both surgical and chemical castrations are now illegal in some parts of the world).

Females over a year old are known as hens

Females under a year are known as pullets.

Babies are called **chicks**.

Quality of good Chickens

The following list indicates the quality points to look for when purchasing poultry.

- Plump breasts
- White unbroken skin, unbroken (unless corn fed)
- Pliable breast bone
- Pleasant smell
- Dry to the touch
- Smooth legs
- Small spurs and scales.

● DUCKS

Ducks are medium-sized aquatic birds with broad bills, eyes on the side of the head, fairly long necks, short legs set far back on the body, and webbed feet.

Quality of good Ducks

- The feet and bills should be bright yellow
- The upper bill should break easily
- The web feet must be easy to tear

● TURKEYS

Turkeys are large birds, their nearest relatives being the pheasant and the guinea fowl. Males are larger than females and have spreading, fan-shaped tails and distinctive, fleshy wattles, called a snood, which hang from the top of the beak and are used in courtship display.

Quality of good Turkeys

- ✓ The breast should be large
- ✓ Skin should be undamaged
- ✓ No sign of stickiness
- ✓ Legs should be black and smooth
- ✓ Feet should be supple with small spurs
- ✓ Older birds will have reddish scaly legs

• PIGEON

Tame pigeons are smaller than the wild wood pigeons - Pigeons found in and around towns and cities should not be considered for eating.

Quality of good Pigeon

- Plump breasts
- White unbroken skin
- Pliable breast bone
- Pleasant smell
- Dry to the touch
- Small spurs

• GUINEA FOWL

Guinea fowl originated in Africa, and the species most often kept as poultry is the Helmeted Guineafowl (*Numenius meleagris*). Guinea fowl are an important food throughout much of Africa, south of the Sahara, and are found in every region of the world.

Quality of good Guinea Fowl

The following list indicates the quality points to look for when purchasing Guinea Fowl.

- ✓ Plump breasts
- ✓ White unbroken skin
- ✓ Pliable breast bone
- ✓ Pleasant smell

- ✓ Dry to the touch
- ✓ Small spurs

- **PEACOCK**

Peacocks are one of the largest flying birds in the world. They move rather slowly, thus creating an appearance of strutting.

Quality of good Peacock

- ✓ Plump breasts
- ✓ White unbroken skin
- ✓ Pliable breast bone
- ✓ Pleasant smell
- ✓ Dry to the touch
- ✓ Small spurs

Cutting Chicken for Sauté

This is a classical cut of chicken where a whole chicken is cut on the bone with the skin left on.

A whole chicken provides 10 pieces.

- 2 x Small Supremes.
- 2 x Thighs
- 2 x Drumsticks
- 2 x Winglets
- 2 x Breast pieces

- **Rabbit**

Rabbit meat is classified as a white meat. Many eaters say it tastes like chicken, but more so. Some think it's very similar to frogs' legs. The meat is fine-grained and delicately flavored. Rabbits are generally sold whole and usually weigh just under three pounds, dressed.

- **FISH**

A fish is any member of a paraphyletic group of organisms that consist of all gill-bearing aquatic craniates animals that lack limbs with digits.

Types of fish

- ☐ **Round Fish**

Fish can be divided into 2 categories – Flatfish and Round fish. From here, we can further break down this category to include fresh water and salt water as well as fat fish and lean fish.

- ☐ **Flatfish**

There are only a few commercially available fish that can be categorized as being a flatfish. All flatfish are lean and have a firm delicate texture. The types of flatfish available are:

- Flounder
- Sole
- Halibut
- Turbot

Classification of fish

- ☐ Freshwater Fish
- ☐ Migratory Fish

Pre-cooking preparation of fish

- ☐ Removing scales
- ☐ Removing fins
- ☐ Removing gills
- ☐ Drawing
- ☐ Washing
- ☐ Filleting

Quality points to look for a fresh fish

Always buy fresh fish. When you are buying whole fish look for these quality points.

1. The fish should not have a strong smell.
2. It should have bright coloured pink or red gills.
3. The eyes should be clear.

4. The scales should be hard to pull away from the skin.

Methods of cooking

As white fish contain less fat within, it may dry out when prepared using certain cooking methods.

- Grilling
- Baking
- Poaching
- Shallow frying

- **SHELLFISH**

Types of shellfish

Shellfish are of two types

- ☐ Crustaceans
- ☐ Mollusks

Crustaceans

A crustacean is found in both fresh and salt water. They are defined by having a hard outer shell with jointed appendages that protects their sweet, tender meat. There are many types of crustaceans and each has their own qualities. They include:

- Crayfish (A crayfish can be called crawfish or crawdad)
- Crabs
- Lobsters
- Shrimp & Prawns

Mollusks

There are two categories of mollusks available – **Univalve** and **bi-valve**. Mollusks are sea creatures that have a hard outer shell that protects their soft interior. Mollusks can be prepared in a variety of ways, each of which has its benefits in flavor and texture.

- Clams
- Mussels
- Oysters
- Scallops

Cephalopods

Cephalopods are part of the mollusk family that do not have an outer shell. The most popular of the cephalopods include:

- Octopus
- Squid

Octopus is generally very tough and requires mechanical tenderization or long, moist-heat cooking to render a palatable and tender product.

Classification of shellfish

- ☐ Shellfish with an outer shell (Clams...)
- ☐ Shellfish with no outer shell (Octopus ...)

Pre-cooking preparation of shellfish

- ✓ Some of shellfish are boiled before grilling and frying
- ✓ Some of them are opened out of their shell before use
- ✓ Lobsters should be kept alive until just before cooking.
- ✓ Dead lobsters should not be used.

Quality of fresh shellfish

Lobsters have a brown-black outer shell and have firm white meat with a rich, sweet flavor. Lobster shells turn red when cooked and can be poached, steamed, simmered, baked or grilled and can be served hot or cold. Lobsters should be kept alive until just before cooking. Dead lobsters should not be used.

✓ **Classification of meat products**

- **Charcuterie**

It is derived from the two French words chair (meat) and cuite (cooked). Classically charcuterie is based on processed pork and includes:

✓ **Pâtés**

Pâtés and terrines, broadly speaking, are essentially big sausages cooked in some sort of mold," Michael Ruhlman writes in Charcuterie: The Craft of Salting, Smoking, and Curing, the

book he coauthored in 2005 with Brian Polcyn. Put simply, they're a mixture of fat, meat, and seasonings that can be ground or puréed.

The grind can vary from coarse to fine, and pork is the dominant pâté meat. But in the US, says Collins, "we have a broad umbrella and use the word 'pâté' very loosely." She talks about her own experience in France, where the structure of definitions is less rigid. But for the American market, which is less familiar with charcuterie products, *Les Trois Petits Cochons* distinguishes pâtés as coarse in texture, meat-based (from mostly duck, chicken, and rabbit), hearty, and garnished with spices and, occasionally, vegetables.

Pâté de campagne, the most common, is a coarse grind of lean and fatty pork with spices and little, if any, liver. More lavish versions are found baked in pastry dough (*encroûte*), in a mold (*en terrine*), or in the skin (*galantines* and *ballottines*), but, historically speaking, the charcutier's goal was always the same: "Pâté was created to use up the excess product offal, trim, fat from a day of slaughter," Cairo writes in his book, *Olympia Provisions*, coauthored with Meredith Erickson.

✓ Terrines

The terrine category throws a lot of people off, Collins says. We tried to keep it as a more vegetable-based or seafood-based category because what we found in France was [that] a lot of the vegetable and seafood items were termed terrines. Collins also notes that most of the layered charcuterie items she's found in France use the term. In *Charcuterie*, Ruhlman writes that "we use the words pâté and terrine interchangeably. Technically, though, terrine is short for pâté en terrine.

✓ Galantines

Galantines have been popular since the French Revolution. M Prévost, the marquis De Branca's chef is credited with the invention of the cold savoury dish. He prepared it by boning poultry, sewing the meat preparation back into its skin, and then poaching and cooling it in stock.

Breasts are usually flattened and then placed on the squared skin and the meat from the legs and thighs is used to make a *mousseline* for a filling. The preparation is well seasoned then

rolled in a muslin cloth and poached in fortified stock. Galantines can also be roasted on a bed of mirepoix.

Galantines are classically garnished with chaud-froid and colourful vegetables cut with aspic cutters. Galantines are always served cold.

✓ Sausages

Definition of Sausages

Seasoned forcemeat stuffed into a tube-like casing. Generally, tougher cuts of meat are used as they are flavourful and toughness is eliminated by grinding.

The regional variation in French charcuterie is perhaps most evident in saucisson: dry-cured, fermented salami. Dry-curing is simply preserving meat by using salt. As saucissons age, natural, healthy molds develop on the casings that prevent bad bacteria from contaminating the meat. These casings can be removed, but Cairo, who makes four different, regionally inspired saucissons, encourages leaving the natural casings intact to enhance the experience.

Saucisson sec (dry) is the most common of the French saucisson arsenal. "If you go to France and go to a charcuterie shop and buy a dried salame," Cairo says, "this is the flavor profile you're going to get." That profile is dominated by pork, as it should be. But Cairo strikes a balance of that porcine perfection with a hint of garlic and a subtle spice from traces of black pepper, the only other two components of saucisson sec. This type of charcuterie is about simplicity and respect for ingredients.

As you travel around France, though, you'll discover many variations on the theme. In Alsace, saucisson is traditionally spiced with clove, allspice, cinnamon, and nutmeg, making a deeply savory and satisfying wintry salame. In Arles, where it is at its purest, you'll find it made with just pork and salt. Meanwhile, eastern France, near the Swiss Alps, is famed for its saucisson aux noisettes, a salame made with pork, salt, and whole hazelnuts from Savoy.

✓ Hams

Cooked and cured hams are frequently seen in French charcuterie, but different regions are known for different types. Jambon de Paris is a three-muscle, lean, low-fat ham wrapped in

its own skin and cooked in its own juices. It's flavored with nothing but salt. With little else to distract from that flavor, the meat must be high-quality. Jambon de Paris is the perfect slicing ham, typically cut thin and served with butter on baguettes or on croques monsieurs and croques madames.

✓ **Bacon**

Other parts (not just the belly) cured in brine and smoked until partially cooked. (Italian: Pancetta)

✓ **Roulades**

Roulades are a similar preparation to galantines but are rolled only in muslin cloth or plastic and not a natural skin casing like galantines.

✓ **Non-pork based charcuterie — Foie Gras**

This controversial delicacy is the enlarged liver of a force-fed duck or goose. The production is controversial and illegal in most countries as the gavage process of placing a tube down the duck or goose's throat and administering corn to it, is regarded as animal cruelty in most societies. The ducks are force-fed on special high-calorie corn and in the last weeks of production their activity is limited to fatten them up faster. At slaughter, the liver is 700-900g for a goose and 300-400g for a duck — about 7 times larger than a normal liver.

The liver is usually sold flash frozen, tinned or preserved in duck fat as the quality of fresh livers deteriorates rapidly.

✓ **Mousse**

Mousses, like pâtés, can be made from a variety of meats. But a mousse is much more finely ground, yielding a smooth texture. And, while you'll find liver in both pâté and mousse, the percentage is typically much higher in mousses, which gives them their famously creamy consistency.

"Pâté and mousse and all the products we make, a lot of people think of them as high-end, which is great, because we use great ingredients, and they're labor-intensive. But pâtés and

mousses are really a labor of love. They utilize items that are essentially leftovers," says Collins.

The transition from liver to mousse typically starts by soaking livers in cold water. "This will remove some of the really iron-y flavor that liver may have," Cairo says. For his pork liver mousse, Cairo marinates livers for two days once they've soaked, after which they're puréed in a food processor and passed through a fine-mesh sieve. The rich liver, enhanced with a dose of cream and egg before it's cooked, is balanced with a splash of port. Chili flakes, white pepper, and coriander add a spiced depth to the spread.

✓ **Rillettes**

Though rillettes can be made from meat simmered in stock, the most traditional iteration starts as confit meat that's been heavily salted and then cooked in its own fat. But where confit is presented whole, rillettes call for finely shredding or chopping the cooked meat and then folding it back into that fat. From there, the rillettes are packed into a small container, making them less unwieldy than an entire confited duck leg, and topped with a final layer of fat, which keeps air out and extends shelf life.

Pork is considered the standard choice for rillettes due to its relative affordability, but duck and rabbit are often used as well. An amazing rillettes will be spreadable, soft, and rich, with a slight chew from the lightly seasoned meat.

✓ **Boudin**

Boudin means "pudding," but these savory sausages are made from ground, spiced meat packed in natural casings and then boiled, poached, or blanched. The two most common varieties are blanc and noir (white and black, respectively). Blanc is more of a holiday sausage, usually served around Christmastime, and often seen in Auvergne, in central France, where chestnuts are widely grown. The Fatted Calf stores in Napa and San Francisco, California, make theirs with cream, bread crumbs, and chestnuts that have been braised in broth and bourbon.

Boudin noir is named such for the addition of pig's blood to the sausage, which gives the final product its signature deep, dark red color. "The French aren't afraid of anything," says Heather Bailie, an owner of Fatted Calf. "That's where blood comes in." Theirs, like most traditional boudin noir, is a pork product made from a mixture of shoulder, blood, diced back fat, caramelized onions, apples (when they're in season), and a salty, smoky Basque spice called piment d'Espelette. The sausage mixture is encased, tied off at the ends, and poached in water with onion and bay leaf. The blood solidifies as it cooks for a delicate, savory sausage with a mousse-like texture.

- **Classification of dairy products**

Dairy product, any of the foods made from milk, including butter, cheese, ice cream, yogurt, and condensed and dried milk.

Milk has been used by humans since the beginning of recorded time to provide both fresh and storable nutritious foods. In some countries almost half the milk produced is consumed as fresh pasteurized whole, low-fat, or skim milk. However, most milk is manufactured into more stable dairy products of worldwide commerce, such as butter, cheese, dried milks, ice cream, and condensed milk.

Cow's milk (bovine species) is by far the principal type used throughout the world. Other animals utilized for their milk production include buffalo (in India, China, Egypt, and the Philippines), goats (in the Mediterranean countries), reindeer (in northern Europe), and sheep (in southern Europe). This section focuses on the processing of cow's milk and milk products unless otherwise noted. In general, the processing technology described for cow's milk can be successfully applied to milk obtained from other species.

1. Butter

Butter, a yellow-to-white solid emulsion of fat globules, water, and inorganic salts produced by churning the cream from cows' milk. Butter has long been used as a spread and as a cooking fat. It is an important edible fat in northern Europe, North America, and other places where cattle are the primary dairy animals. In all, about a third of the world's milk production is devoted to making butter.

Butter is one of the most highly concentrated forms of fluid milk. Twenty litres of whole milk are needed to produce one kilogram of butter. This process leaves approximately 18 litres of skim milk and buttermilk. Butter is a high-energy food, containing approximately 715 calories per 100 grams. It has a high content of butterfat, or milk fat (at least 80 percent), but is low in protein. Butter has substantial amounts of vitamin A and minor amounts of calcium, phosphorus, and vitamin D.

1. Cheese

Primitive forms of cheese have been made since humans started domesticating animals. No one knows exactly who made the first cheese, but, according to one ancient legend, it was made accidentally by an Arabian merchant crossing the desert. The merchant put his drinking milk in a bag made from a sheep's stomach. The natural rennin in the lining of the pouch, along with the heat from the sun, caused the milk to coagulate and then separate into curds and whey. At nightfall, the whey satisfied the man's thirst, and the curd (cheese) had a delightful flavour and satisfied his hunger.

From its birthplace in the Middle East, cheese making spread as far as England with the expansion of the Roman Empire. During the Middle Ages, monks and merchants of Europe made cheese an established food of that area. In 1620, cheese and cows were part of the ship's stores carried to North America by the Pilgrims on the mayflower. Until the middle of the 19th century, cheese was a local farm product. Few, if any, distinct varieties of cheese were developed deliberately. Rather, cheese makers in each locality made a cheese that, when ripened under specific conditions of air temperature and humidity, mold, and milk source, acquired certain characteristics of its own. Different varieties appeared largely as a result of accidental changes or modifications in one or more steps of the cheese-making process. Because there was little understanding of the bacteriology and chemistry involved, these changes were little understood and difficult to duplicate. Cheese making was an art, and the process was a closely guarded secret that was passed down from one generation to the next.

With increasing scientific knowledge came a greater understanding of the bacteriological and chemical changes that are necessary to produce many types of cheese. Thus, it has become

possible to control more precisely each step in the cheese-making process and to manufacture a more uniform product. Cheese making is now a science as well as an art.

2. Ice cream

Ice cream, frozen dairy food made from cream or butterfat, milk, sugar, and flavourings. Frozen custard and French-type ice creams also contain eggs. Hundreds of flavours have been devised, the most popular being vanilla, chocolate, and strawberry.

Iced desserts were introduced into Europe from the East. Marco Polo brought back descriptions of fruit ices from his travels in China. Italian cooks developed recipes and techniques for making both water and milk ices; Buontalenti, one of the cooks taken to France by Catherine de Medici, first prepared such treats for the French court. In 1686 a Sicilian, Francesco Procopio, opened a café in Paris and began to sell ices and sherbets, which became so popular that numerous other ice makers soon opened in the capital. Tortoni, owner of a café in late-18th-century Paris, is credited with developing cream ices. In the United States, ice cream was served by George Washington, Thomas Jefferson, and Dolley Madison. Philadelphia became the hub of ice-cream manufacture in the United States; the ice-cream soda was invented there in 1874. The ice-cream cone, portable and self-contained, originated at the 1904 World's Fair in St. Louis, Missouri, U.S.

Commercial ice cream is made by combining, under constant agitation, the liquid ingredients (milk, cream, syrups, etc.). These liquids are heated and combined with dry ingredients (sugar, stabilizers, dried eggs or milk) to form a mix, which is then pasteurized and homogenized. The mix is ripened for several hours in a refrigerated vat, then combined with finely chopped fruit, nuts, or other solids. The mix is agitated while being frozen in order to incorporate air and control the size of the ice crystals that are formed. The partially frozen ice cream is drawn off into packages and frozen solid, or "hardened." So-called soft-service ice cream was invented in 1939; it is served directly from the freezing machine without being allowed to harden.

Homemade ice cream is often made with a base of boiled custard. The mix, with flavorings, is poured into a canister surrounded with ice and salt or a refrigerator unit. The contents of the canister are agitated by means of a hand crank or electric motor until the ice cream is softly frozen. The ice cream is usually allowed to harden further in a freezer.

3. Yogurt

Yogurt, also spelled yoghurt, yourt, or yoghourt, semifluid fermented milk food having a smooth texture and mildly sour flavour because of its lactic acid content. Yogurt may be made from the milk of cows, sheep, goats, or water buffalo. Cow's milk is used in the United States and north-central Europe; sheep's and goat's milk are preferred in Turkey and southeastern Europe; milk from the water buffalo is most commonly used in Egypt and India. Yogurt may also be produced from nondairy products.

4. Ghee

Ghee is butter oil. It is prepared by melting butter and separating the moisture from butter by heating. It is used in preparing Indian sweets, savories, curries and variety rice like pulav and biriyani.

5. Paneer

Paneer is a soft cheese prepared by addition of lemon juice or citric acid to hot milk and precipitating the casein.

- **Classification of milk**

Milk is the normal secretion of mammary gland of mammals. Its purpose in nature is to provide good nourishment for the young of the particular species producing it. Milk is one of the most complete single foods available in nature for health and promotion of growth.

- **Types Of Milk**

Different types of cow milk

Cow's milk is what most people think of when they hear the word "milk." However, there's a whole slew of options!

1. Whole milk

Whole milk, commonly known as "regular" milk, is thick and creamy. While it's typically pasteurized and homogenized, it's basically in the same format as it is when it comes out of the cow.

2. 2% milk

Also known as reduced-fat milk, 2% milk has a fat content that's just two percent of the total weight of the milk. It's thinner than whole milk and has a milder flavor.

3. Low-fat milk

Low-fat milk is similar to 2% milk, but it has only one percent fat content. This milk is thin and has a white, opaque shade.

4. Organic milk

Cows that aren't given any antibiotics or supplemental hormones and are raised on farms that only use organic fertilizers and pesticides produce organic milk. To qualify as organic, the cows must also get 30% of their diet from the pasture.

5. Skimmed milk

Also known as "fat-free milk," skimmed milk has zero fat. This makes it significantly thinner than all other types of cow's milk. It often has a watery consistency and may have added milk powder or other additions to enhance its taste.

6. Raw milk

Raw milk is "unpasteurized" and/or has not been homogenized. This means it hasn't been heated up for decontamination to ensure it's safe for drinking.

7. Lactose-free milk

Since many people are lactose-intolerant, it's also possible to get milk products that have had the lactose removed. It's made by adding lactase, an enzyme that breaks down lactose, to regular milk. This has no impact on the milk's flavor or texture.

8. Flavored milk

Kids (and kids at heart) often love **flavored milk**. This sweetened drink contains milk, sugar, and natural or artificial flavorings, and food colorings. Some of the most popular flavors are chocolate and strawberry.

9. Full cream milk

Full cream milk has the highest fat content of regular cow's milk. It has a very creamy taste and texture and is often added to coffee.

10. Buttermilk

While it was once made with the liquid that was left over from churning butter, today's version of buttermilk does not contain any butter. Instead, it's a fermented milk product that is produced by adding a bacteria culture to sweet, pasteurized milk. The result is a thick, tangy, and acidic milk that you can drink straight or use to make recipes such as buttermilk biscuits.

- **Different types of plant-based milk**

From environmental issues to personal taste, there are many reasons why so many people choose to consume plant-based milk instead of animal milk. There's a wide range of choices available. Here are some of the most common.

1. Almond milk

While there are several different types of nut milk, almond milk is one of the most popular. It's made by toasting almonds, then grinding them with water. Almond milk has a creamy consistency and a natural sweetness.

2. Soy milk

Soy milk is a common type of plant-based milk. It's made by soaking dried soybeans and grinding them. Soy milk is often described as a sweeter, thicker version of almond milk. It's also considered a "complete protein milk" since it has the same protein content as whole cow's milk.

3. Rice milk

Rice milk is very sweet and is one of the most hypoallergenic options. It is made by boiling brown rice and then mixing it with brown rice syrup and brown rice starch.

4. Oat milk

Oat milk is made by combining oats with water, then carefully straining it to leave behind a milky liquid. While there are several different types of oat milk, most are quite thin. Oat milk is soy and nut-free, making it a good option for those who have allergies or intolerance.

5. Hemp milk

This vegan milk is made from soaking crushed hemp seeds in water, then blending them. It creates a thick, creamy drink that has a nutty, earthy flavor. Don't worry hemp milk is completely legal and does not contain any THC (tetrahydrocannabinol), so there's no concern about mind-altering effects.

6. Coconut milk

Coconut milk has become quite popular as of late. It's made from the white flesh of mature brown coconuts and has a thick, creamy texture. There are two main types of coconut milk thick and thin. Thick coconut milk is made from boiling finely grated coconut flesh, then straining it through a cheesecloth. The flesh that remains in the cloth is then boiled, creating thin milk that has a more water-like consistency.

7. Cashew milk

Similar to almond milk, cashew milk is also low in calories and carbs. It's made by lightly toasting the nuts, soaking them in filtered water, then grinding them to a paste and blending it with more water. The result is a liquid that is thicker and creamier than cow's milk and has a natural sweetness.

8. Pea milk

Pea milk is made from yellow peas and is a good option for anyone who is allergic to nuts or soy. It's made by milling peas into flour, then filtering and purifying the powder and blending it with water and other ingredients, like sea salt or sunflower oil. Vitamins are also sometimes added to pea milk. If you're worried about the taste don't be. Pea milk doesn't taste like peas at all. Instead, this creamy-textured drink has a flavor that is very similar to almond milk.

- **Other types of animal milk**

You may be surprised to learn that people also drink different types of milk products that come from animals other than cows. Some interesting options include:

- **Goat milk**
- **Buffalo milk**
- **Sheep milk**
- **Camel milk**

Each has a unique flavor, making them an interesting option for anyone who enjoys drinking cow's milk.

- **Types of Processed Milk**

Raw milk is processed into the following types of milk.

1. Skim Milk:

Skim milk is whole milk from which fat has been removed by a cream separator. The quantity of fat is usually 0.05 to 0.1 percent. It contains all other milk nutrients, except Vitamin A and D, but can be fortified by the addition of these vitamins.

2. Toned Milk:

Toned milk is prepared by using milk reconstituted from skim milk powder. Skimmed milk is prepared by removing fat from milk in a cream separator.

3. Standardized Milk:

In standardized milk the fat content is maintained at 4.5 percent and soluble non-fat is 8.5 percent. It is prepared from a mixture of buffalo milk and skim milk.

4. Homogenised Milk:

Homogenisation is a mechanical process that reduces the size of fat globules by forcing milk through small apertures under pressure and velocity.

5. Evaporated Milk:

It is made by evaporating more than half the water from milk under vacuum, at a temperature of 74° C - 77° C. It is then fortified with vitamin D, homogenised and filled into cans and sterilized at a temperature of 118° C for 15 minutes and cooled.

6. Condensed Milk:

It is obtained when whole milk is concentrated to about one-third of its original volume and has about 15 percent sugar added to it. The preparation of condensed milk involves (i) filtration and pasteurization of milk, (ii) preheating and evaporation, (iii) addition of sterilised sugar syrup, (iv) homogenisation.

7. Flavored Milk:

It is the milk prepared by the addition of flavour such as rose, pista, badam, cardamom etc. to pasteurised whole milk.

8. Milk Powder:

Milk powder is prepared by dehydrating whole milk in drum driers or spray driers. In the case of drum or roller drying, the milk is filtered, pasteurized, homogenized and then fed into roller driers which are internally heated with steam.

- **Classification of eggs**

Definition of Egg:

Science defines egg as a cell from which a living organism takes birth and grows. All animals (including birds) lay eggs, except mammals which give birth to babies. An egg laying animal lays eggs, no matter whether they are fertilized or not. In other words, it does not have to be mated to lay an egg. In order to develop into an embryo, an egg must be fertilized by sperm before it is laid. The fertilized eggs, under favorable conditions hatch into living organisms.

It becomes crucial for humans to select good quality eggs which should be freshly laid, as one does not want to see a structural form of living organism, when an egg is broken. The eggs that we usually get in the market are unfertilized eggs.

There are many varieties of eggs found around the world, but only a few are used for human consumption for various reasons. The eggs can be of fish, poultry, game birds, or even reptiles; but in cooking when we refer to eggs we are always talking about poultry and eggs of birds that are reared for consumption of meat. But then eggs from ducks and even quails have a very special place on the gourmet tables.

Eggs can be of various colors and patterns and sizes; the only thing common among eggs is their natural oval shape. A healthy chicken will lay one egg in a day and this will largely depend upon its diet and the time of the day, as sunlight affects the production of eggs. Artificial lights are thus provided in commercial farms to maximize the production of eggs.

The size of the egg is largely dependent upon the diet of the hen and also its age. The older hens would lay larger eggs. The color of the eggs, however, has no bearing upon the color of the hens; it is probably a fad but many people believe that brown hens lay brown eggs and the white ones lay white eggs. The hens usually cease to lay eggs when they are around three years old.

The color of the yolk however depends largely upon the diet that is fed to the chickens. Feed containing yellower corn will yield yellow yolks as compared to wheat or barley. Sometimes natural products, such as marigold flowers are also added to the feed to darken the color of the yolks. An egg is a rich source of protein as it has two types of proteins.

Egg white contains 'albumen' and yolk contains 'lecithin'. Yolk has fatty compounds and is high in cholesterol, and that is the reason why only egg white is consumed as a healthy option in breakfast compared to a whole egg. Eggs can be put through many uses. Apart from being relished in the breakfast as omelet, poached or boiled, it can be cooked in curries or even whipped up for delicate desserts and cakes.

Eggs can be used for thickening or simply paired with milk to create sauces. Eggs and oil or butter emulsion also forms sauces such as mayonnaise and hollandaise. Egg is a versatile commodity and chefs can put it to numerous uses.

- **Classification of Egg**

Eggs can be classified into different types

1. Chicken eggs:

These are the most commonly eaten eggs around the world. They are available in brown color and white color. The brown colored ones are referred to as desi eggs in India.

2. Duck eggs:

They are darker in color than chicken eggs and are larger in size too. The duck eggs are stronger in flavor and are always eaten very fresh, as the flavor intensifies with age.

3. Goose eggs:

Similar in size and color to duck eggs, goose eggs taste slightly oily as they have more fat content.

4. Guinea fowl eggs:

They are flecked with brown color and are boiled between 3-5 minutes and served in salads.

5. Gull eggs:

Since sea gulls prey on sea food, their eggs are also fishy in flavor and hence are valued. These are usually boiled for 5 minutes and served cold with celery salt. They are smaller than chicken eggs.

6. Ostrich eggs:

These weigh around 500 g and are 10 times bigger than chicken egg. One egg can feed four people and is used in the same way as chicken egg.

7. Ostrich eggs:

They are tiny in size and cooked medium boiled for 2 minutes.

8. Pheasant eggs:

These eggs have a natural pinkish hue and are around the size of a quail egg. They can also be used as chicken eggs.

9. Quail eggs :

They are speckled and slightly brown in color. They are usually 1/3 the size of a chicken egg and are usually served cold or set in aspic jelly.

10. Plover eggs:

They are very similar to quail eggs and are considered to be a delicacy. They are usually served soft boiled.

11. Turkey eggs:

These are creamy white in color and speckled with brown color. At times a turkey egg can be twice the size of a chicken egg. The flavor is same as that of a chicken egg.

12. Thousand year old eggs:

Also called century eggs, these are a Chinese delicacy that is cured for around 100 days. These duck eggs are coated with mixture of lime, salt, tea ashes, and charcoal and buried in the ground to mature. These are usually served shelled, sliced and are also served cold.

Source of Eggs:

Eggs are named after the birds that laid the eggs. Eggs can be distinguished by size and color of the shell. The term egg mainly refers to the egg of hen and duck.

An average egg weighs 50 gr. Approximately and is composed of the shell, egg white and yolk. The weight is distributed in the different parts as follows.

Structure of an Egg:

Let us discuss the structure of an egg (refer to Fig 14.1) and then we shall discuss different types of eggs and their uses.

Shell:

It is the outer covering of the egg and is composed of calcium carbonate. It may be white or brown depending upon the breed of the chicken. The colour of the shell does not affect cooking quality, character, or nutrition.

Yolk:

This is the yellow portion of an egg. Colour of yolk varies with the feed of the hen, but does not indicate the nutritional content.

Vitelline:

It is a clear seal that holds the egg yolk.

Chalazae:

These are the twisted cordlike strands of the egg white. They anchor the yolk in the centre of the egg. Prominent chalazae indicate high quality.

Shell Membranes:

Two shell membranes, inner and outer membrane, surround the albumen. They form a protective barrier against bacteria. Air cell forms between these membranes.

Air Cell:

It is the pocket of air formed at the large end of the egg. This is caused by the contraction of the contents on cooling after the egg is laid. The air cell increases with the age of the egg as there is considerable amount of moisture loss. The eggs are stored with the larger side facing up to keep the yolk in the centre.

Thin Albumen:

It is nearest to the shell. When the egg is broken there will be a clear demarcation of the thin and thick albumen. As the egg gets older these two albumens tend to mix into one another. This is again a test of good and fresh egg.

Thick Albumen:

It stands high and spreads less than the thin white in a high quality egg. It is an excellent source of riboflavin and protein.

Percentage composition of egg

Part	Weight%
Shell	8 – 11
White	55 – 61
Yolk	27 - 32

Table 6:Percentage composition of egg

Source: edited by Author from:https://www.researchgate.net/figure/Average-percentage-composition-of-the-hens-egg_tbl1_273494497

Nutrient Composition of Egg

Egg is a rich source of protein and lipids. Egg protein is of high quality as compared to any dietary protein and therefore is used as a standard for evaluating the protein quality of other foods. The nutrient composition of egg white and yolk differ considerably and is represented in the following table.

Percentage Nutrient Composition of Egg White and Yolk

Nutrient	Egg white	Egg yolk
Water	88.0 %	48.0 %
Protein	11.0 %	17.5 %
Fat	0.2 %	22.5 %
Mineral	0.8 %	2.0 %

Table 7:Percentage Nutrient Composition of Egg White and Yolk

Source: edited by Author from: <https://www.ahealthiermichigan.org/2011/10/11/the-nurtional-value-of-egg-whites-versus-egg-yolks-what-do-you-use/>

Vitamin and Minerals in Egg

Egg yolk is rich in vitamin-A. Thiamin and riboflavin are present in appreciable amounts. Calcium is present in the yolk in small amounts. Phosphorus is abundant in the yolk. Eggs are an important source of bioavailable iron and a fair source of sodium, magnesium chlorine, potassium and sulphur.

Selection Criteria of Egg

- ✓ The shell should be clean and should not be broken.
- ✓ Fresh eggs have a small air cell. This can be detected by holding the egg against light.
- ✓ Yolk should be in the centre without any dark spots when observed against light.
- ✓ Good quality egg will sink when immersed in water. Poor quality eggs will float due to the enlarged air cell and loss of moisture.

Use of Egg in Cookery

As a Thickening Agent:

Egg proteins coagulate on heating. The coagulation of protein is accompanied by binding of moisture and increase in viscosity. Therefore, eggs can be used as thickening agents.

As a Binding Agent:

Egg protein coagulate between 65 and 70°C and help to hold shape of the products such as cutlets in which it is used.

As a Leavening Agent:

Eggs when beaten form elastic films which can trap air. This air expands during baking and gives a fluffy spongy product.

As an Emulsifying Agent:

Besides protein, egg contains phospholids such as lecithin which are known for their emulsifying quality. Hence egg can be used an excellent emulsifying agent in products such as mayonnaise as it is able to stabilise the oil in water dispersion.

As a Flavoring and Coloring Agent:

Egg is used in food mixtures to contribute flavor and color to products such as cakes and pudding.

As a Clarifying Agent:

Egg helps in the preparation of clear soups. When a small amount of egg white is added to the liquid and heated, the egg albumin coagulates and carries along with it suspended particles. On allowing it to settle, a clear soup is obtained.

As a Garnishing Agent:

Hard boiled eggs are diced and are used to garnish dishes like biryani.

As an Enriching Agent:

Eggs are used to enhance the nutritive value of various preparations.

Selection of Eggs:

Eggs available in the market are graded according to the freshness, cleanliness, size, cracks, and color. With the exception of their freshness, these points can be readily told from the appearance of the eggs. But in order to determine whether an egg is fresh or not, it is put through a process known as 'candling', by which the interior condition of the egg can be ascertained.

This method of determining the freshness of eggs consists of placing a piece of cardboard containing a hole, a little smaller than an egg between the eye and a light, which may be from a lamp or an electric light, and holding the egg in front of the light. The rays of light passing through the egg show the condition of the egg, the size of its air space, the growth of mold, or the spoiling of the egg by any ordinary means.

Another way of judging the quality of eggs consists in observing the condition of the surface of the shell. When eggs are freshly laid, the shell is covered with a substance called 'bloom' that gives it a feeling much like that of a thin lime coating deposited in a pan after water boils.

This coating disappears gradually as the egg is exposed to air, but as long as it remains, the egg may be considered as fresh and germ-proof. While this way of determining freshness is probably the quickest, it is possible that the quality of some eggs from which the bloom has recently disappeared has not been injured.

One can determine the freshness of an egg by shaking it. When the water inside the shell evaporates, the yolk and white shrink so much that they can be felt moving from side to side when the egg is shaken. The staler the egg, the more pronounced the movement becomes.

This method should be applied only immediately before the egg is to be used, as the thin membrane between the yolk and the white and the spiral cords that hold up the yolk are liable to be disturbed by the shaking. A test for freshness which consists in placing the eggs in glass containing water will be found effective.

A perfectly fresh egg will sink when it is put into the water, but if the egg is three weeks old the broad end will rise slightly from the bottom of the glass. An egg that is three months old will sink into water until only a slight portion of the shell remains exposed; whereas, if the egg is older or stale, it will rise in the water until nearly half of it is exposed.

Check for cracks in the shell which could let bacteria in and contaminate the eggs. They should be less than 21 days old. The yolk should be plump and there should be two layers of white. If the egg is stale the yolk becomes flat and the distinction between the two layers of white is lost. The final test will be the smell; bad eggs will have an unpleasant odour.

Storage of Eggs:

The storage of the eggs could mean two things. Firstly, there is the storage in fridge for daily use and then there is industrial storage that is done at the warehouses for retail markets. The method of industrial storage does not concern chefs as much as the storage factors of the eggs once they are received into the hotels.

In the warehouses eggs are kept little above freezing point and the humidity of air and the amount of carbon dioxide in the air are controlled. They will keep about nine months under those conditions.

The other methods of long storage of eggs can be achieved by:

Freezing:

The eggs are washed, sanitized, and then broken into sterilized containers. After combining yolks and whites, they are strained, pasteurized, packed, and quick frozen.

Drying:

Eggs are broken well mixed and then spray dried at a temperature of approximately 71°C (used by bakers and confectioners).

Let us now talk about the storage of eggs that are received in the hotels:

- i. Eggs should be used within a month and stored unwashed, with the pointed end down, in the cold part of the refrigerator. Washing the egg makes the shell permeable to smells. So strong smelling foods, such as cheese, onion, and fish, should not be stored near the eggs because the egg shells are porous and the egg will absorb strong odors.
- ii. A hardboiled egg will keep for four days if unshelled and two days if shelled. Hard boiled eggs pickled in flavored vinegar and sterilized will keep for months.
- iii. Once broken, egg yolk will keep for 24 hours and egg white will keep for six to 12 hours in a refrigerator.
- iv. A dessert containing raw eggs such as mousse should be eaten within 24 hours. Fresh eggs can be frozen if they are broken into a bowl, beaten and poured into suitable containers.
- v. These days egg pasteurizers are available in almost all the hotels and it has become a standard to pasteurize the eggs before they arrive in the hotel.
- vi. One must also receive and store eggs in a plastic crate rather than a cardboard box as paper breeds germs and invites pests.

- **Seafood based preserves**

1. Katsuobushi

Considered the hardest food in the world, katsuobushi is a Japanese dried, fermented, and smoked fish product. Traditionally made with skipjack tuna, katsuobushi has an extremely salty and fishy flavor that makes it the perfect addition to soups and stocks. A key ingredient in Japanese cooking, you can only eat katsuoboshi uncooked when it's shaved very thinly (where it gives off the appearance of "dancing").

Now that you know the most popular types of cured meats, you can go to the deli counter with confidence and never wonder what the difference between pancetta and prosciutto is again.

6. Canned squid

Canned squid constitute a ready-made meal if you warm them up alongside a starch. The folks at Güeyu Mar serve their Calamares de OtroPlaneta (calamaris from another planet) with a creamy risotto cooked in fish broth and a touch of their sharp local cheese. The grilled squid in its savory ink and sofrito gravy alongside the sweet fat of the cream is a pairing nothing short of otherworldly. Jose Gourmet at Amazon similarly recommends a cream-based risotto with mint and basil for their Spiced Calamari (specifically whole baby squid) in Ragout Sauce. You can also try them with potatoes or beans.

7. Cockles and clams

Cockles and clams are actually some of the most approachable conservas. Steamed and preserved in a simple brine, each is a tender morsel with none of the chewiness that can be off-putting in over-cooked fresh molluscs.

Italians opened the first anchovy canneries in Spain in 1900, preserving the fish in butter to enjoy their favorite snack straight from the can. Eventually they switched to oils, and only a few still use butter. For the best oil-packed anchovies, look to Cantabria (specifically Santoña), a region known for harvesting some of the best anchovies in the world.

8. Sardines (Sardinas/Sardinhas)

Sardines are the symbol of Portuguese cuisine, though they're popular in both countries. You'll find cans of small tails, some containing the full loin with skin and bones, or others completely skinned and deboned. You may be inclined to go the cleaner route, but the rich skin and subtle crunch of the spines are part of what make canned sardines so unique.

When choosing sardines in particular, look for small canneries with responsible harvesting practices, as the local Iberian stock has recently fallen because of unsustainable overfishing practices, according to seafood sustainability advocate Kate Findlay-Shirras of Best Fish Forward. There are a few stickers you can look for like MSC (Marine Stewardship Council) or

ENEK (the Basque Country's eco certification). (It's worth it to look for these stickers on other types of conservas as well.) Otherwise do your research on each cannery's purchasing practices via their website, physical address, distribution location, and even the barcode on the label. Transparency is key: The more information the cannery provides on their practices the better.

9. Canned Anchovies

Italians opened the first anchovy canneries in Spain in 1900, preserving the fish in butter to enjoy their favorite snack straight from the can. Eventually they switched to oils, and only a few still use butter. For the best oil-packed anchovies, look to Cantabria (specifically Santoña), a region known for harvesting some of the best anchovies in the world.

Quality Spanish anchovy conservas (like Ortiz at Amazon), are a far reach from the salt bombs you scatter on pizza or blitz into Caesar dressing. They're carefully selected, hand-skinned, deboned, and canned with less salt than the common anchovy to let the natural fish flavors shine. Because they have less salt to preserve them, they're kept in the refrigerator. Throughout Spain anchovies are elegantly strewn onto thin slices of bread or dabbed with a bit of marmalade to contrast the salinity. A tapas spot in the southern city of Seville serves anchovies in a tiny pressed sandwich with sweetened condensed milk. Also try anchovies draped over soft-boiled eggs or roasted broccoli. You just don't want to cook with these—it's better to savor their delicate texture and flavor rather than dissolve them into a sauce.

10. Mussels in Escabeche (Mejillones)

Galicia produces the best mussels in the peninsula and the canned version's texture is vastly different from the fresh; they're soft and velvety rather than rubbery. They're commonly preserved in escabeche and come in two sizes, the bigger the better. These large guys mature longer on the rocks before they're harvested, becoming plump and firm enough to hold up really well to preservation without disintegrating. Additionally, look for ones that say "fritos" (fried before canning), as frying them adds to their pleasantly meaty and juicy texture.

- **Meat based preserves**

One of the oldest food preservation and flavoring techniques, cured meats come in dozens of varieties around the world, making it pretty confusing if you're trying to figure out what's what. This list covers some of the most popular types of cured meats, and you're guaranteed to be an expert when you're done reading it.

1. Prosciutto

Prosciutto is made from the whole hind leg of a pig (aka: the ham) and is one of many Italian-style cured meats. Since prosciutto is both salt-cured and air-dried it's totally safe to eat without cooking it, making it the perfect addition to any salad or charcuterie board. You'll find the meat sliced very thinly, as it has a slightly chewy texture that can be overwhelming if eaten in large chunks.

2. Salami

Italian salami is traditionally made from lightly ground beef or pork combined with a variety of seasonings and animal fat, which is then stuffed into a casing. The sausage is hung up in a controlled room where the incredibly important fermentation process can begin. The more time salami has spent fermenting, the drier it will be, meaning certain types of salami will be juicier and fattier than others. This doesn't make one type better than the other, you just have to see what you prefer! I don't recommend cooking salami as this will make the fat separate. You're probably better off using it in a charcuterie board or in a sandwich.

3. Spanish chorizo

Odds are you're probably more familiar with Mexican chorizo, but Spanish chorizo is a must-try if you're a fan of cured meats. Spanish chorizo is made with pork and is commonly classified into two types, sweet or spicy. The distinction between the two comes from one of chorizo's main ingredients, paprika, and the amount of moisture left in the end product. Try highlighting the spiciness of the chorizo by making Spanish paella.

4. Pepperoni

If you've ever had a pizza, then odds are you've had pepperoni. Created by Italian-Americans in the 1900s, pepperoni is made from a mixture of finely ground beef and pork, and a variety of seasonings are added to create that savory and slightly spicy flavor we all know and love. Pepperoni can be eaten uncooked, but I prefer it roasted in the oven as the flavor gets stronger and it adds some much-needed texture.

5. Bacon

Bacon is one of those magical foods that I still can't believe exists, it's smoky, salty and savory (or what I refer to as "the holy trinity of S's"). It tastes so good it can even make Brussels sprouts delicious. This very special type of cured meat is typically made with smoked pork belly, but you can find other renditions ranging from turkey to lamb. Make sure to cook your bacon as it doesn't cure for long enough to kill all the bacteria.

6. Pancetta

While often confused with prosciutto, pancetta is actually more similar to bacon. Both of these cured meats are made with pork belly, but unlike bacon pancetta isn't smoked. Make sure to cook your pancetta before digging in, maybe with some pasta

7. Pastrami

A deli staple, pastrami is made out of beef and is cured in a seasoned brine for an extended period of time. After the brining process, pastrami is dried, smoked, and steamed. This might sound like a lot of work for a sandwich, but if you've ever had good pastrami then you know it's more than worth it.

8. Lardo

As the name implies, lardo is made with cured and seasoned pork fat, specifically from the pig's back (as opposed to bacon, which is made with fat from the belly area). Because the texture and flavor of lardo is so rich you'll usually find it sliced thinly and served with bread.

9. Coppa/Capocollo

Made with pork shoulder, coppa is seasoned with wine (usually red), garlic, and other seasonings before it's salt-cured and air-dried. Often more expensive than other Italian cured meats, you'll find coppa has a delicate texture with a fatty and spicy flavor. I'd say it's best served on its own, but you could always add it to pasta if you wanted to.

10. Saucisson

Essentially a French version of salami, saucisson is made with dry-cured pork and has a distinct salty and savory flavor. You can find different types of saucisson, including versions with cheese, dried fruits, or nuts in them. If you're feeling fancy, you should try making a French cassoulet with saucisson.

11. Jamón serrano

One of the most popular additions to any charcuterie board, this style of dry-cured Spanish ham has been dated back to the Roman Empire. Serrano ham is made with a variety of different pigs so you'll notice different textures and flavors depending on which producer you buy from and what sort of cut you get (sliced, whole, or cubed). It's best served with bread.

12. Jamón ibérico

The main difference between ibérico ham and serrano ham is the type of pig that's used. While serrano ham is made with pretty much any pig, ibérico ham *must* be made with black iberian pigs. The flavor is richer and fattier than other cured meats, and it's no surprise that it's usually the priciest thing on a charcuterie board.

13. Bologna

Traditional bologna (not the pink stuff you find in the supermarket) can be made out of almost any protein, but the most authentic version is made with pork. Heavily seasoned, bologna uses myrtle berries to achieve its distinct peppery flavor. If you're not a fan of bologna, odds are you just haven't had a good one. This sausage packs a load of flavor and is perfect for all sorts of recipes.

14. Guanciale

The traditional addition to carbonara, guanciale is yet another Italian-style cured meat (we sure have a lot of those, huh?). Made out of pork jowl (the cheek), this product is incredibly salty and has a lot of fat, making it the perfect thing to cook and season your food with.

15. Lap Cheong/Kunchiang

If you live in Asia, then odds are you've come across these bright red sausages before. Originating in China, lap cheong is a dried sausage with a slightly sweet flavor and a hint of 5-spice. With a harder texture than other sausages on this list, you'll commonly find it served in other dishes. I'm a simple girl and like to have my lap cheong with congee, there's something super comforting about it.

16. Soppressata

Like many other types of Italian sausages, soppressata is made with cured ground meat. However, the exact cuts of meat used will depend on which region of Italy you're getting your soppressata from. If you're getting soppressata in Tuscany, you'll probably end up eating some leftover pig parts like the tongue or head. This isn't necessarily a bad thing, in fact, I'm a big fan of off-cuts, but if you aren't a fan of that then you can always try the soppressata from Calabria, which only uses ground pork thighs. Soppressata is heavily seasoned and is a great addition to recipes with other proteins.

17. Andouille

Originally from France, andouille sausage has evolved to become one of the most popular sausages in the States, especially in the South where it's a key ingredient in Cajun and Creole cuisine. Andouille sausage is seasoned with garlic, onion, peppers, and wine and has a distinct smoky flavor, making it the perfect addition to gumbo.

18. Blood Sausage

Pretty much every country in the world has their own version of blood sausage. In France it's called boudin noir, in the UK it's known as black pudding, in Spain and parts of Latin

America it's called morcilla. While every version has its own redeeming qualities, we're specifically talking about the Spanish morcilla, which is boiled then hung and cured. While the idea of eating blood might sound scary, the flavor is incredibly complex and delicious, especially when it's served with potatoes.

19. Kielbasa

Kielbasa sausage is a staple in Polish cuisine and can be found at almost every occasion including weddings! There are over a dozen varieties of kielbasa and some are smoked, some made with turkey, and some air dried. Give yourself a taste of Poland with a traditional kielbasa and cabbage dish.

20. Isaan Sausage

As one of the most popular sausages in Thailand, I knew I couldn't forget this one. *Sai grok Isaan*, is a fermented sausage made with ground pork and garlic. You'll also find rice or noodles inside as a binding ingredient. Usually eaten with sticky rice, this is the perfect street snack to indulge in if you're ever in Thailand.

21. Mortadella

One of the thickest sausages you'll find (no, that isn't a joke), mortadella is made out of pork that's finely ground until it's essentially a paste. Also coming from Bologna, you'll notice a variety of similarities between mortadella and bologna sausages like the texture and flavor profile. Reminiscent of many other deli meats, mortadella is a great addition to sandwiches or paninis.

22. Corned beef

One of the most popular cured meats in the UK and the States, corned beef will usually be found in sandwiches or served with potatoes and cabbage. Made with beef (usually brisket) and cured in a seasoned brine, corned beef is incredibly flavorful and can be quite filling as it's served in thicker slices than other types of cured meats.

✓ Plant based-food commodities

Plant-based foods are generally classified into vegetables, fruits, legumes, grains, nuts, and seeds; their derived processed counterparts such as breads, pasta, breakfast cereals, cooked and fermented vegetables and legumes, and fruit purées, juices, and jams; and their derived ingredients such as oleaginous seed.

✓ Vegetables

Vegetables are plants or parts of plants served with the main course of a meal.

The texture of a vegetable varies depending upon whether it is served raw or cooked. The texture and appearance of meals can then be varied by the way the vegetable is served.

Classification of Vegetables

Vegetables can be classified into two groups according to the culinary purpose.

- ☐ Roots vegetables
- ☐ Green leafy vegetables

Roots vegetables

Roots vegetables are classified into 3 sub group

Sub-group	Examples
Roots	Carrot, Beetroots, Radish,.....
Tubers	Irish Potatoes, Sweet potatoes, Yam,....
Bulbs	Onion, Shallot, Garlic,...

Table 8: Classification of Roots Vegetables

Green leafy vegetables

Green vegetables are classified into 5 sub group

Sub-group	Examples
Leaves	Cabbage, Lettuce, Spinach,...
Flowers	Cauliflower, Broccoli, Broccolini,
Stems	Asparagus, Fennel, Celery,
Legumes	Corn, Fresh beans, Peas,...
Fruits	Avocado, Pumpkin, Cucumber, Eggplant, Chokos,...

Table 9: Classification of Green leafy Vegetables

Source: edited by Author from: https://www.brainkart.com/article/Classification-of-Vegetables_33966/

Other vegetable categories

(Eg. Mushrooms, Fungi, Pulse)

Nutrient Content of Vegetables

i. Green Leafy Vegetables:

They are an inexpensive rich source of many nutrients such as carotene, ascorbic acid, folic acid, calcium, iron and fiber. They are a poor source of protein.

ii. Roots and Tubers:

Roots and tubers are rich in carbohydrates and are a source of energy in the diet. Carrot and yellow varieties of yam are rich in carotene and potato contains Vitamin C. Tapioca and yam are rich in calcium. Roots and tubers are a poor source of iron, protein and a fair source of B – Vitamins.

iii. Other Vegetables:

These are a good source of dietary fibre and add variety to the diet. They are a fairly good source of vitamins and minerals. (Eg.) brinjal, ladies finger, cauliflower, cucumber, gourd varieties.

- **Vegetable based preserves**

- ✓ **Royal or Royale**

Royal is a purée of vegetables, such as carrot which is mixed with egg and consommé or milk, placed in greased small moulds, and baked in a water bath. When it is cooked, it is unmoulded and cut into the desired shape. Normally used as a garnish.

- ✓ **Vegetable Terrine**

Terrines are layers of blanched vegetables, including purees that are placed in a terrine dish or individual moulds, and set with aspic. It is sliced and served cold as a starter, or unmolded. Layers are usually brightly colored and varying in texture.

✓ **Timbale**

This refers to the individual shape of a mousse or set vegetable preparation. The vegetable mousse is placed into a timbale mould or ramekin, cooked in a water bath and then unmolded onto the plate. A sauce is then spooned around the vegetable timbales.

✓ **Mousse**

Finely or coarsely chopped pre-cooked vegetables are mixed with egg, milk or cream, seasoning, and baked in a water bath. They are served hot and turned out of the mould onto the plate.

✓ **Duxelles**

Almost a paste-like stuffing of mushroom, onion and white wine, used in many preparations and may be used as a stuffing or a garnish.

- **Fruits-based products**

✓ **Chutneys**

✓ **Jams**

Jam is made from crushed or chopped fruits and sugar. Jams made from a mixture of fruits are usually called conserves, especially when they include citrus fruits, nuts, raisins, or coconut. Preserves are made of small, whole fruits or uniform-size pieces of fruits in a clear, thick, slightly jellied syrup.

✓ **Marmalade**

Marmalade is a fruit preserve made from the juice and peel of citrus fruits boiled with sugar and water. The well-known version is made from bitter orange. It is also made from lemons, limes, grapefruits, mandarins, sweet oranges, bergamots, and other citrus fruits, or a combination.

✓ **Jellies**

Jelly is a semitransparent confection consisting of the strained juice of various fruits or vegetables, singly or in combination, sweetened, boiled, slowly simmered, and congealed, often with the aid of pectin, gelatin, or a similar substance.

Example: Guava jelly is a major product prepared from the guava fruits. Slightly underripe guava fruits are ideal for making jelly. The fruits are crushed and juice is extracted as explained earlier in the text. The juice is decanted and boiled with sugar for jelly making, whereas the pulp is used for the preparation of guava cheese. The quantity of sugar needed for making jelly depends on the pectin content of juice, which generally varies from 0.75 kg sugar/kg of pectin-rich juice to 0.5 kg sugar/kg of low-pectin juice. Boiling is continued until it forms a sheet when a small portion is cooled off in a spoon. This hot jelly is then filled into glass jars and sealed.

- **FRUITS**

A fruit is the edible and juicy product of a tree or plant and consists of the matured ovary including its seeds and adjacent parts. Usually fruits are sweet, with a wide range of flavors, colors and textures.

A fruit is a mature ovary of a flower. The fleshy portion of the pericarp makes up the chief edible portion of the fruit.

Classification of Fruits for Culinary Purpose

Fruits can be classified as follows:

Classification	Examples
Hard	Apple, Pear, Quince
Soft	Gooseberry, grapes, strawberry
Stone	Apricot, Cherry, Peach
Citrus	Grapefruits, Lemon, Lime, orange, sweet lime,
Tropical	Banana, Guava, Mango, Pineapple, Papaya,..
Vine	Passion fruit, Mellon, Grape, Kiwifruits

Table 10: Classification of Fruits for Culinary Purpose

Source: edited by Author from: <https://leafyplace.com/types-of-fruits/>

Nutrient Content of Fruits

Fruits particularly citrus varieties and guava are a good source of vitamin C. Yellow fruits like mango and papaya contain— carotene. Banana is a good source of carbohydrate and hence energy. Fruits are a poor source of protein and fat with the exception of avocado. Fruits also contain fiber and minerals such as sodium, potassium and magnesium. Dry fruits, seethaphal and watermelon contribute appreciable amounts of iron.

- **Legumes**

Legumes, also known as pulses, are seeds found within pods. Legumes can be consumed fresh (such as French beans and snap peas) or dried and then cooked (such as lentils, black-eyed peas, and kidney beans). Legumes tend to have a high protein content, making them particularly attractive to people who are reducing their intake of animal products and looking for alternative protein sources.

Legumes have long been nutritional staples of many diets around the world. Mung beans and soybeans have a long history in Asian cuisines, while related products such as tofu and soymilk have become core parts of modern Western vegan and vegetarian diets. Lentils and chickpeas form a primary component of many traditional dishes in India. Peas have recently become a popular ingredient in novel plant-based meat alternatives such as Beyond Meat's burgers and sausages.

- **Nuts and Seeds**

Whether eaten raw or in nut butters, protein bars, pilafs, and dairy replacements, nuts and seeds are good sources of beneficial nutrients and healthy fats. Seed varieties include chia, sesame, sunflower, pumpkin, millet, and quinoa, while nut varieties include almonds, walnuts, hazelnuts, brazil nuts, and more.



Activity 2: Guided Practice



Task: 2

1. You brainstorm on the (a) and you present in the plenary session.
2. As you have already listed all the ingredient that King hotel Executive chef will need Waldorf salad, discuss the importance of each ingredient in Waldorf salad. Read task 1," King hotel Executive chef requested you as commis chef to select food commodities that you will need for preparing Waldorf Salad"
- a. As you have already selected the food commodities that you will need for preparing Waldorf Salad.
- b. Classify food commodities need for preparing Waldorf Salad basing on their use.

Key Facts

Types food commodities need for preparing Waldorf Salad

- **Vegetables:** Lettuce, Celery stems,
- **Fruits:** Green fresh raisins, green apple
- **Nuts:** Walnuts
- **Dressing Sauce :** Mayonnaise, Cream
- **Seasonings :** Salt, pepper



Activity 3: Application



Task: 3

1. Trainees are guided to the kitchen workshop allowed

Observe carefully and execute the following tasks:

- a. identify food commodities need for preparing Waldorf Salad
- b. Criteria to base on while selecting food commodities for preparing salad are identified
- c. Each group is requested to present.

- d. Right ingredients are well identified
- e. Salad ingredients are properly selected
- f. Baking pans are properly collected

The class comments on each group performance.

Topic 1.2: Identification of purchasing factors for food commodities



Figure 8: Listing purchasing factors for food commodities



Activity 1: Problem Solving



Task 1:

1. In your groups read this situation:

" Your boss asks you to go to purchase food commodities for making white beef stock in the local market. Then, he requests you to list out purchasing factors that you will consider for selecting those ingredients from market"

2. Discuss and answer the questions:

a. Identify the purchasing factors to consider while purchasing food commodities.

b. Create a checklist of quality points to look for good bones that you will need to prepare white beef stocks.

Present your work in a plenary session.

Key Facts (Indicative contents)

Identification of purchasing factors for food commodities

- **Recipe**

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

The purchasing process is an essential part of every food service operation. All competent cooks should be skilled in buying the appropriate ingredients, in accurate amounts, at the right time, and at the best price. Every kitchen operation has different purchasing procedures. But there is one rule that should always be followed:

Buy only as much as it is anticipated will be needed until the next delivery.

This will ensure that foods stay fresh and will create a high inventory turnover. All foods deteriorate in time, some more quickly than others. It is the job of the purchaser to ensure that only those quantities that will be used immediately or in the near future are purchased.

Market Sourcing

Sources of supply vary considerably from location to location. Large cities have a greater number and variety of suppliers than do small towns and isolated communities. Purchasers should establish contact with available suppliers such as wholesalers, local producers and packers, retailers, cooperative associations, and food importers. In most instances, the person in charge of buying will contact several suppliers to obtain the necessary foods. Some wholesalers diversify their product lines in order to meet all food-related kitchen needs.

Food products are obtained from various sources of supply. For example, a packing house supplies meat and meat products, while a food wholesaler supplies dry goods. Once business is established with a supplier, all transactions should be well documented and kept readily available on file.

Food products in particular fluctuate in price over the year, due to many factors:

- **Seasonality:** When food is in season, there is more of it available in the local food supply, bringing prices down. Additionally, foods in season are usually of higher quality and have longer shelf life than those that are out of season and need to be transported long distances to market.
- **Weather:** Severe weather can have a huge impact on the cost of food. Drought, flooding, and unseasonable frost have all affected major produce-supplying areas of the world in recent years, causing a rise in prices for many items.
- **Costs of transportation:** If the cost of fuel or transportation rises, so does the cost of food that needs to travel to market.
- **Commodity prices:** A number of foods are traded on the commodity market, such as meats and grains. These prices fluctuate as buyers who trade in these products in large volumes buy and sell, much like the stock market.

Before purchasing any food items, ask the following questions.

- **Which supplier has the best price and the best quality?** Where an item is purchased should be determined by the price and the quality of the available supplies. When ordering supplies, it is advisable to get prices from at least three sources, then purchase from the supplier who quotes the best price for comparable quality.
- **When will the item be delivered?** Depending on the distance of the food service establishment from the supplier, delivery may take hours or days. Remember, it is extremely difficult to maintain food quality and consistency if you do not know when

your order will be delivered. For this reason, menu planning and a running inventory are two of the most important aspects of purchasing procedures.

Meat, seafood, poultry, processed fruits and vegetables, and fresh fruits and vegetables can be ordered under different specifications. For example,

- Meats can be ordered by grade, cut, weight/thickness, fat limitation, age, whether fresh or frozen, and type of packaging.
- Seafood can be ordered by type (e.g., fin fish/shellfish), species, market form, condition, grade, place of origin, whether fresh or frozen, count, size, and packaging,
- Poultry can be ordered by type, grade, class (e.g., broiler, fryer), style (e.g., breasts, wings), size, whether fresh or frozen, and packaging.
- Processed fruits and vegetables can be ordered by grade (sometimes), variety, packaging size and type, drained weight, count per case, packing medium, and whether canned or frozen.
- Fresh fruits and vegetables can be ordered by grade (sometimes), variety, size, weight per container, growing area, and count per container,

- **Quality points**

The term food quality represents the sum of all properties and attributes of a food item that are acceptable to the customer. Read this article to find out more.

Buying food commodities is not an easy task as it seems to be. You cannot just go to the shop and buy blindly. You must keep a few points in before buying the commodity. The commodities such as rice, wheat, grain, gram dal etc should be checked with a sample. You should also touch the sample to view the quality of the commodity. The commodity should not be felt powdery to the hand. The quality of the commodities can be understood by simply viewing the commodity. You should also gain experience by constantly buying the commodity from a place. You can ask your close people about the commodity buying before you buy. The experienced people tell you the type of commodities that can be bought.

Points to kept in mind when selecting/ purchasing some food commodities

- ✓ Fruits and vegetables: High quality fruits and vegetables are the ones that are ripe, crisp, fine and free from bruises. Nutrients values of fruits and vegetables decrease over a period therefore They should be purchased when fresh. Vegetables will usually wither when kept in the sun or kept for too long.
- ✓ Starchy roots and plantain: These foods form the staple food in many areas. They are relatively cheap but do not have good keeping quality. They can be used for a variety of food products. They are sold in fresh or dried and powdered forms. Examples of such foods are plantain cassava, yam, cocoyam, water yam, potato and taro. When purchasing these foods care must be taken so that only good quality foods are bought. Roots should be free from bruises since this would make them rot quickly. They must be firm to touch. Softness in roots is a sign of spoilage. They must not start sprouting. Ripped plantain should not have black spots on the skin.
- ✓ Animal and animal products: Foods in this group are very expensive and they spoil very quickly. The most expensive animal foods are not necessarily the most nutritious. If resource are limited can still get good quality protein from cheap sources such as snails, crabs, sprats and anchovies. Bone in beef is just as nutritious as bone less beef. when buying animal food, quality and safety are very important consideration.
- ✓ The quality of animal products can be assessed as follows:-
- ✓ Meat should have a deep red color with white or creamy fat.
- ✓ Signs of poor quality are very dark brown or green color and yellow fat.
- ✓ When the meat is greenish and smells bad it is of poor quality and not safe for eating.
- ✓ Poultry should have a meaty body with meaty legs and breasts.
- ✓ The skin should not have any discoloration Fish should have firm flesh and shiny skin with a lot of tightly clinging scales.
- ✓ It must have bright and clear eyes and red shiny gills.

- ✓ Disagreeable color, flesh that leaves a dent when pressed and dry skin are signs of spoilage.
- ✓ Eggs: Eggs may have white or brown shells. The nutritive value is the same. Eggs can be bought fresh or dried.
When buying eggs, look for shells that are rough and not shiny. Test for freshness by putting it in a jar of salt water. When it floats the eggs is stale. Buy eggs that are clean and not cracked.
- ✓ Milk: Milk is sold in liquid or powdered form. The choice will depend on the purpose intended to use it for and the storage facility available. Milk can be bought fresh. Its keeping quality is not good especially outside the refrigerator. When a milk tin is opened and used the remaining milk should be poured out of the tin and kept in the refrigerator or a cool dry place, well covered.
- ✓ Legumes Legumes include groundnuts, cowpeas and soya beans. Legumes are sold shelled or unshelled. When buying legumes one must buy the ones that are not infested with weevils. Also they must not be mouldy. It is better to make fresh groundnut paste than to buy from the market. Often groundnut paste is adulterated before it is sold in the market.
- ✓ Cereals Cereals are normally sold in grains or in powdered form.
- ✓ When buying cereals avoid the ones that have weevils or have grown molds. Moldy cereals are not good for consumption. Inspect for color, size and uniformity of grain and freedom from contamination, foreign matter and infestation. Coal-tar dyes, mineral oil and lathyrussativus are common adulterants to be guarded against.
- ✓ Spices should be selected whole as far as possible. Size, color, shape and freedom from contamination, foreign matter and infestation should be considered. The ground spices should be selected based on the certification mark
- ✓ Fats and Oils: Reputed brands can be selected rather than loose oils which have a chance of contamination

- **Shelf-life**

There are many definitions of shelf life provided by governments and organisations. For example, the Institute of Food Science and Technology defines shelf life as “the period of time during which the food product will remain safe; be certain to retain its desired sensory, chemical, physical, microbiological and functional characteristics; where appropriate, comply with any label declaration of nutrition data, when stored under the recommended conditions.”¹ Both food safety and quality are important aspects of acceptable shelf life, as is reflected in the European Food Education Council’s definition: “the length of time a food can be kept under stated storage conditions while maintaining its optimum safety and quality.”² Although pathogens are usually monitored during shelf life studies, a suitable food safety program is the best way to ensure the product’s safety.

There are two major food categories: perishables and non-perishables.

Perishables

Perishable items include fruits, vegetables, fresh fish and shellfish, fresh meats, poultry, and dairy products. As a rule, perishables are bought frequently to ensure freshness. Frozen foods, such as vegetables, fish and meat products, have a longer lifespan and can be ordered less frequently and stored in a freezer.

Non-perishables

Non-perishable items include dry goods, flour, cereals, and miscellaneous items such as olives, pickles, and other condiments. These can be ordered on a weekly or monthly basis.

Keep in mind that just because something does not go bad isn’t a reason to buy it in quantities larger than you need. Every item in your inventory is equal to a dollar amount that you could be saving or spending on something else. Consider that a case of 1000 sheets of parchment paper may cost \$250. If you have a case and a half sitting in your inventory, but only use a few sheets a day, that is a lot of money sitting in your storeroom.

Shelf-life is the length of time a food can be kept under stated storage conditions while maintaining its optimum safety and quality. Shelf life of a food begins from the time the food is manufactured and is dependent on many factors such as its manufacturing process, type of packaging, storage conditions and ingredients.

How is shelf-life indicated on foods?

Shelf-life is normally indicated on a food label by either a best-before date or a use-by-date.

A best-before date reflects the length of time a food can reasonably be expected to retain its best quality e.g. flavor. Examples of foods which have best before dates include canned, dried and frozen foods.

A use-by-date date is the length of time a food can reasonably be expected to be safe to consume when stored under stated storage conditions. Consequently these foods may present a risk of food poisoning if consumed after the use-by date. Examples of foods which have use-by-dates include chilled dairy products, cooked meats and prepared salads.



Activity 2: Guided Practice



Task: 2

1. Trainees are guided in the vegetable garden and then in Kitchen workshop with different types of bones, grouped depending on their number.
2. Different vegetable available in garden are showed to each group
3. Trainees are guided to answer the following questions:
 - a. Select ingredient suitable for preparing white beef stocks.
 - b. Consider the required quality standards for stock ingredients

Key Facts:

Suitable Quality Stock ingredients are selected

- Fresh Beef bones are selected
- Fresh vegetables are selected
- Fresh herbs are selected
- In date spices are selected

Quality of each ingredient in white stock

- Bones: Freshness, pleasant smell
- Vegetables: Green color, freshness
- Herbs: Green color, freshness
- Spices: date in use



Activity 3: Application



Task: 3

1. Trainees are guided in the vegetable garden and then in Kitchen workshop with different types of bones, grouped depending on their number.

2. Different vegetable available in garden are showed to each group

You brainstorm on the (a, b & c) and you present in the plenary session on the following questions:

- a. Suitable ingredient for preparing white beef stocks are selected.
 - b. Required quality standards for stock ingredients are considered.
3. Each group present, and the class agree or disagree on each group performance.

Topic 1.3: Identification of Food flavourings and seasonings



Figure 9: Identification of Food flavorings and seasonings

Source: <https://chatelaine.com/recipes/chatelaine-kitchen/herbs-and-spices-to-stock-spice-drawer/>



Activity 1: Problem Solving



Task 1:

1. In your groups read this situation:

” A hotel manager placed the order to hotel supplier for purchasing flavorings and seasonings for coming event. On delivery day, he requests you to select flavorings and seasonings needed for the event”

2. As you have already read the situation work on the following questions:

- a. Select flavorings and seasonings needed for Bechamel sauce preparation.
- b. Explain the reason why it is important to add flavorings and seasonings.

3. Take a time and brainstorm and discuss the questions in your respective groups.

4. Present your work in a plenary session.

Key Facts (Indicative contents)

Food flavorings and seasonings

✓ Salts

A salt consists of the positive ion (anion) of a base and the negative ion (anion) of an acid. The reaction between an acid and a base is called a neutralization reaction. The term salt is also used to refer specifically to common table salt, or sodium chloride.

When in solution or the molten state, most salts are completely dissociated into negatively and positively charged ions and are good electrolytes (conductors of electricity).

6 Types of Salt

Today, there are so many different types of salt pink, grey, black, table, etc. Which one to choose? Salt's salt, right? Well, no. Here's the shakedown on some of the most common salts you'll find and how best to use them.

1. Table Salt

In the United States, most table salts are iodine fortified. The essential mineral is important for combating iodine-related thyroid disorders. Highly processed, table salt is stripped of any minerals and often contains an anti-caking additive. Try it in pasta water and in recipes that require very exact measurements like baked goods.

2. Kosher

Named for the Jewish process of meat preparation which requires that meat be devoid of blood, kosher salt with its large coarse crystals does an excellent job. Its milder flavor lends itself well to most recipes. It's also fast to dissolve and just as good on a steak as it is on popcorn.

3. Pickling Salt

Also called preserving salt or canning salt, pickling salt contains no additives (like anti-caking ingredients) and therefore won't cloud pickling water. The fine granules are easy to dissolve and should be kept in an air-tight container to prevent clumping. It's a very concentrated salt and one should use a less is more approach when working with it. Great for vegetable gardeners wanting to preserve the flavors of summer.

4. Himalayan Pink Salt

Harvested in the foothills of the Himalayas, this pink salt gets its distinct coloring from the minerals it contains, mostly iron (rust). As the fashionable salt of the moment, it's favored by many who tout its many health benefits. All that aside, it has a slightly lower sodium content than regular salt and probably looks hipper on the dinner table than its counterpart. Personally, I can not detect much of a difference.

5. Black Salt

Looking for an "eggy" flavor to add to your recipes? This salt's for you. Commonly used in Southeast Asian recipes, black salt (or Kala namak) has a strong Sulphuric odor due to the Indian spices and herbs that are heated into it at extremely high temperatures. Seeds from

the harad fruit contain Sulphur that is released into the salt during the cooking process. While very pungent as it cooks in a recipe, the odor dissipates and leaves behind an eggy flavor great for egg-free dishes.

6. Sea Salt

This salt is derived from evaporated seawater and is harvested all over the world. It can be found in fine, coarse or flaked textures with variances in color based on the minerals it contains. Crystalline varieties are best for adding that finishing touch to just-cooked foods like salmon. Even a salad would benefit from a pinch. Flaked sea salt is fast-dissolving and an excellent choice sprinkled over vegetables. Fleur de Sel (which means “flower of salt” in French), the Cadillac of all salts, is hand-harvested from coastal salt ponds in France. This isn’t an ordinary seasoning, but one best used as a garnish over a dish just before serving. It comes with a hefty price tag too. You might even consider announcing its presence to your guests who will be surprised...

✓ Peppers

A pungent hot-tasting powder prepared from dried and ground peppercorns, used as a spice or condiment to flavor food, capsicum, especially a sweet pepper.

All types of peppers are part of the genus *Capsicum*, which includes hot varieties, also known as chili peppers, and sweet varieties, such as the bell pepper. Up until the arrival of Spanish and Portuguese explorers in the New World, peppers grew only in Latin America. Along with corn, tomatoes, and beans, the Europeans brought back some of the peppers and on their travels introduced the plant to the rest of the world, where it took off like wildfire.

Truly international in their appeal, peppers have become integral to cuisines across the world, from Mexico to Thailand, the Congo to India, and from Hungary to Tunisia. If you are unable to find fresh or dried chiles in your local grocery store, try an online source like Amazon {ref: no follow}, Happy Quail Farms, Despaña, La Tienda, or Zocalito.

1. Bell Pepper

Alternate Names: Green pepper, red pepper, sweet bell pepper, capsicum

Characteristics: Relatively large in size, the bell-shaped pepper in its immature state is green with a slightly bitter flavor. As it matures, it turns bright red and becomes sweeter. You can also find yellow, orange, white, pink, and even purple varieties. With their high water content, bell peppers will add moisture to any dish. They're also great for adding color.

2. Poblano Pepper

Characteristics: Somewhat large and heart-shaped, the poblano is common in Mexican dishes such as chiles rellenos. Are poblano peppers spicy? Yes, but only mildly spicy. At maturity, the poblano turns dark red-brown and can be dried, at which point it's referred to as an ancho or mulato. Anchos have a rich, raisin-like sweetness. The high yield of flesh to skin makes anchos great for sauces.

3. Anaheim Pepper

Alternate Names: California green chile, chileverde, New Mexican chile

Characteristics: This long pepper is relatively mild and very versatile. When mature, the Anaheim turns deep red and are referred to a chile Colorado or California red chile. Anaheims are popular in salsas and dishes from the American Southwest.

4. Serrano Pepper

Characteristics: Just a couple of inches long, with a tapered end, this small pepper packs quite a bit of heat. Beware: The smaller the pepper, the hotter it is. When ripe, serranos are red or yellowish orange—they can be cooked in both their ripe and unripe states. Serranos are common in Mexican and Thai cooking.

5. Habañero Pepper

Characteristics: Small and bulbous, this chile, in the same family as the Scotch bonnet, is one of the hottest on the Scoville scale. If you can get past the heat, habañeros also have a fruity flavor. They're popular on Mexico's Yucatan Peninsula and in the Caribbean, where they're used to make hot sauces.

6. Cayenne Pepper

Alternate Names: Finger chile, Ginnie pepper, and bird pepper

Characteristics: Slender and tapered, this chile is probably most familiar in its dried, ground form—the powder known as cayenne pepper. Ground cayenne pepper is a main ingredient in the chili powder that flavors Tex-Mex dishes such as chili con carne. It's one of the spiciest types of peppers!

7. Rocoto Pepper

Characteristics: This South American pepper looks like a miniature bell pepper, and, like a bell pepper, can come in shades of orange, yellow and red. The hottest rocotos are typically yellow, but red rocotos are the most common. Inside, the pepper has unique black seeds. It's sometimes referred to as the hairy pepper thanks to its furry leaves. Rocoto have a crisp and fruity flavor, and are commonly used in salsa.

8. Piri Piri

Alternate Names: Peri peri, African bird's-eye pepper and African red devil pepper

Characteristics: When Portuguese sailors made port of call in what's now South Africa and Mozambique, they brought ashore little chile peppers called bird's eyes, or peri-peri in Swahili. The name also came to refer to the piquant sauce made from these chiles, as well as to the Portuguese-African method of cooking prawns, chicken, or anything else in this sauce. Nando's bottled version is a mainstay for those who don't want to make it from

scratch. Though it's a relatively small pepper, growing only one to two inches, it packs quite a punch.

9. Mirasol Chili

Characteristics: Bright red and pointed upward, these peppers grow toward the sun, which is why they were given the name mirasol (which means "looking at the sun" in Spanish). In their dried form, they are called guajillo. Guajillo are fruity, tangy, and mildly acidic, and are a common ingredient in traditional al pastor. They are also one of the main chilis used in mole sauce.

10. Tabasco Pepper

Characteristics: Best known for the sauce that bares its name, this pepper grows throughout the world. At maturity, the pepper measures one to two inches and is bright red. To create the famous tabasco sauce, the pepper is smashed and combined with salt and vinegar, which tempers the pepper's heat (the Scoville rating of tabasco sauce is 2,500 to 5,000 — a mere fraction of its rating as a pepper).

11. Jalapeño Pepper

Characteristics: This Mexican pepper is typically plucked from the vine while still green. If allowed to ripen more, they will turn red and take on a slightly fruity flavored. Jalapeños are a tasty ingredient commonly used to in salsa and sauces. When dried, a jalapeño is called a chipotle. Smoke-dried chipotles come in two varieties: meco (mellow) and moritas (spicier). Smoky, woodsy, and spicy, chipotles are the perfect ingredient for salsas, sauces, escabeche, and adobo.

12. Cherry Pepper

Characteristics: This lovely pepper is sweet on the outside and the inside. Bright red and shaped like a heart, this large pepper barely registers on the Scoville scale, but makes up for

its lack of spice with a sweet, succulent flavor. You'll commonly find cherry peppers chopped and stuffed into green olives, in pimento loaves and pimento cheese.

13. Chilaca

Characteristics: Black and wrinkly, chilacas boast a prune-like flavor with a hint a hint of licorice. "Chilaca" is an Aztec term meaning old or gray-haired, which is fitting given the pepper's wrinkly appearance. When dried, the chilaca is called a pasilla or chile negro, and is toasted or soaked and blended into sauces, often combined with fruit.

14. Banana Pepper

Characteristics: This mild yet tangy pepper adds a kick to pizza or sandwiches. This pepper usually takes on a bright yellow hue as it ripens, but occasionally grows to be red, orange or green instead.

15. Piquillo

Characteristics: This mild, sweet pepper hails from northern Spain and features a smokey, tart flavor that's ideal for sandwiches and sauces, and also thrives as a compliment to meat and cheese. You'll often find them jarred in your grocer's gourmet section. As they mature, they grow from green to red. They measure three to four inches long and are slightly curved at the end, resembling a little beak.

Black Peppercorns

Undoubtedly one of the most famous spices in the world, ground black pepper is the ubiquitous spice most commonly found in everyday seasoning alongside salt. However, not all black peppercorns were created equal. Black peppercorns are grown in various spice growing regions, from Sarawack (Malaysia) to Talamanca (Ecuador) and take on different characteristics depending on where they were grown in the world.

White Peppercorns

Perhaps rather confusingly, white peppercorns are actually black peppercorns with the outer casing removed once they have been soaked in water. They have a more intense flavor than black peppercorns, with earthy undertones. White peppercorns are ideal for use in white sauces, soufflés, mashed potatoes and in any paler food where black peppercorn grinds would distract from the dish.

Green Peppercorns

Green peppercorns are the immature and unripe peppercorns harvested from the same vine as white and black and dehydrated or preserved, with a resulting mild flavour. They're aromatic, with a fresher, fruitier flavor than white or black pepper and are usually pickled to preserve them for longer. Try this recipe for stuffed tomatoes with green peppercorns or strawberry jelly with green peppercorns.

Pink Peppercorns

Misleadingly, these delicate peppercorns are not actually peppercorns at all but berries from a South American shrub. You won't find them in a pepper mill as their fragility and softness make them best scattered into salads or onto finished dishes where their sweet-sharp and delicate flavor also compliments seafood and lighter sauces.

Szechuan peppercorns

Likewise, Szechuan peppercorns are not from the pepper family but a dried berry from the Szechuan province of China. More aromatic Szechuan pepper is the berry of the mountain ash tree, with a pungent flavor unlike the usual heat of a peppercorn.

Long Peppercorns

This unusual looking peppercorns are easily identified by their unusual shape. Hotter than standard black peppercorns they are also very aromatic. While they're not so easily found in western cuisine, they're commonly called for in Indian, Nepalese, North African, Malaysian, and Indonesian cuisine.

✓ Herbs

Definition

What Are Culinary Herbs? Culinary herbs are aromatic edible plants used in small amounts to add flavor to dishes. Most herbs are used for both culinary and medicinal uses and come from plants that may be used for their leaves, as herbs, and also for their seeds, as spices.

Culinary herbs are aromatic edible plants used in small amounts to add flavor to dishes. Most herbs are used for both culinary and medicinal uses and come from plants that may be used for their leaves, as herbs, and also for their seeds, as spices.

Chefs and home cooks alike use fresh and dried herbs to make both sweet and savory dishes, ranging from rich sauces to light salads and herb-laced baked goods. In addition to their culinary uses, medicinal herbs and their valuable essential oils have been relied on for their health benefits since the Middle Ages, ranging from anti-inflammatory and antiviral benefits to skin-clearing topical powers.

15 Common Herbs and How to Use Them

1. **Basil** (*Ocimum basilicum*): This member of the mint family has glossy, deep green, pointed leaves and a sweet-and-savory flavor with hints of anise, mint, and pepper. Varieties include sweet basil, Thai sweet basil, lemon basil, and holy basil. Basil is used in both fresh and dried form to flavor dishes ranging from Italian sauces to meat dishes to Asian curries. This popular herb is also one of the main ingredients of pesto, a sauce made with fresh basil, Parmesan cheese, pine nuts, garlic, kosher salt, black pepper, and olive oil.
2. **Mint** (*Mentha*): This perennial plant has a subtly sweet flavor and releases a distinct cooling sensation due to the menthol in the herb. Used for a variety of culinary and medicinal purposes, mint has tender, bright green leaves that are commonly used in beverages like mint tea and mint juleps, as well as dishes like Vietnamese pho and Thai stir-frys. While dried mint is used in tea making, fresh mint is the preferred culinary form of the herb.

3. **Parsley** (*Petroselinum crispum*): A member of the Apiaceae family of plants, parsley is a leafy, herbaceous herb with a bright, slightly bitter taste that emphasizes other flavors. Most commonly added at the end of cooking as a garnish, parsley has a few common varieties including flat-leaf parsley (aka Italian parsley), curly parsley, and Japanese parsley (aka Chinese parsley). Parsley is commonly used to make chimichurri sauce and light Mediterranean dishes like tabbouleh.
4. **Cilantro** (*Coriandrum sativum*): Also known as coriander, cilantro is a tart, citrusy herb with delicate, bright green leaves most commonly used fresh and added at the end of cooking. A member of the parsley family, this flavorful herb is used frequently in Mexican and Middle Eastern cuisine, as well as spicy Thai, Chinese, and Vietnamese dishes. The seeds of the coriander plant are also used to make a common ground spice.
5. **Oregano** (*Origanum vulgare*): With a name meaning “joy of the mountain” in Greek, oregano is a fragrant herb in the mint family with a sweet, slightly peppery flavor. This earthy herb is commonly used in its dried form throughout cooking in dishes like tomato sauce, and is a staple in Turkish, Italian, Greek, and Mexican cuisine.
6. **Thyme** (*Thymus vulgaris*): Recognizable by its small, pale green leaves and pungent aroma, thyme is a popular herb among cooks and gardeners alike. Fresh thyme is a sturdy herb that holds up well to heat and can be used throughout the cooking process. With three common varieties (French thyme, English thyme, and German thyme), this herb is frequently added to hearty dishes like pork loin, lemony chicken breasts, and fatty meats, as it can hold its own against rich flavors.
7. **Tarragon** (*Artemisia dracunculus*): This hearty herb is known for its stronger flavor with bittersweet notes of anise, licorice, and chervil. With three common varieties French tarragon, Mexican tarragon, and Russian tarragon this herb is used in both fresh and dried form to flavor hearty meat dishes like pork chops, as well as lighter egg and fish recipes. Used by the likes of ancient Roman soldiers to boost vitality, tarragon has a storied history as a healthful herb.
8. **Bay Leaf** (*Laurus nobilis*): While this Mediterranean herb is native to Asia, it has been most commonly associated with the ancient European cultures of Greece and Italy. A

pungent, aromatic herb with a slightly bitter taste, bay leaves are typically used in dried, whole form and steeped in stews, soups, and sauces throughout the cooking process to infuse a deeply herbaceous flavor. A traditional ingredient of the French bouquet garni, bay leaves are also used in Indian cuisine and Asian cooking.

9. **Rosemary** (*Rosmarinus officinalis*): With a Latin name meaning “dew of the sea,” rosemary has been prized for its sturdy, aromatic whole sprigs and rosemary oil for centuries. Known for its needle-like leaves, woody stems, and herbaceous aroma, fresh rosemary is used in dishes ranging from roasted fall vegetables to whipped goat cheese to flavorful bundt cakes. Rosemary stems and rosemary leaves alike are used to flavor a wide variety of recipes. Chefs use rosemary sprigs to infuse hot oil or butter for cooking meat, vegetables, and other rich rosemary recipes.
10. **Sage** (*Salvia officinalis*): This perennial herb is known for its fuzzy, gray-green leaves and earthy, sweet-and-savory flavor with a peppery bite. Fresh sage leaves are commonly used to make Chinese herbal tea. Common sage is used in both fresh and dried forms and pairs well with hearty fall vegetables and warm, comforting recipes. Chefs also use sage to create a browned sage butter that can be spooned over pasta and more. Popular sage recipes include classic Thanksgiving stuffing; white bean, sausage, and sage soup; butternut squash soup with fried sage and brown butter; and sage tea.
11. **Chervil** (*Anthriscus cerefolium*) - This delicate herb is a staple of French cuisine, known for its subtle anise-like flavor and delicate, curly leaves. One of the main ingredients in the classic herb blend fines herbes, chervil is typically used fresh and added at the end of cooking. Chervil is a common ingredient in the classic Bearnaise sauce made with an emulsification of butter and egg yolk with white wine vinegar, chervil, and tarragon.
12. **Dill** (*Anethum graveolens*): Known for its grassy flavor, bright green color, and slender stems, dill is commonly used in pickling mixtures, dressings, egg dishes, and creamy salads such as potato salad. Fresh dill pairs particularly well with rich, creamy ingredients like cream cheese. In addition to the dill weed herb, the seeds and flowers of the dill plant are also edible.

13. **Marjoram** (*Origanum majorana*): A close cousin of oregano, marjoram has a similar appearance, with grassy, slightly lemony leaves that make a great addition to poultry dishes, herb butters, and egg recipes. The small marjoram leaves are best used fresh and can be added in the middle of cooking to infuse soups, sauces, and other cooked dishes with herbaceous flavor.
14. **Lavender** (*Lavandula*): This floral member of the mint family may be best known for its fragrance, used commonly in perfumery and potpourri, but is making a culinary comeback in dishes like grilled pork chops, lavender jam, lavender roasted red potatoes, and even lavender ice cream and shortbread cookies.
15. **Chives** (*Allium schoenoprasum*): A perennial herb commonly used in Asian cooking, this member of the allium family has a subtly oniony flavor with hints of garlic. Recognizable by its thin, grass-like leaves and vibrant green color, chives make the perfect garnish or addition to a cream cheese mixture or tangy sour cream-based dip.

1. Basil

Basil, a popular herb with a mild and sweet flavor that has a name which means 'king' in Greek language. And it is rightly called so because many culinary experts consider it a royal herb. Used primarily for its aroma, basil is used a lot in Indian as well as international cuisines. While freshly plucked basil adds much needed fragrance to the dish, dried basil leaves mostly contribute to the taste.

Types of Basil

Sweet Basil: One of the most common varieties of basil that is used in tomato-based dishes and Italian cuisine.

Lemon Basil: Found mostly in Asia and north-eastern Africa and is used predominantly in Thai cuisine.

Thai Basil: Identified with its purple stem and flowery green leaves, Thai basil has a mint-like flavor.

Holy Basil: Also known as tulsi, Holy basil is grown in most Indian homes and has many medicinal qualities.

2. Parsley

Yet another herb that derives its name from Greek language, Parsley is mostly used for garnishing than flavoring. Dark green in color with stubby stems, when sprinkled over dishes minutes before serving, the aromatic herb plays its role in tempting the taste buds. While its fresh scent accentuates the flavor and of any dish, dried parsley has little or no fragrance at all.

Types of Parsley

Curly leaf Parsley: Less fragrant and bitter in taste, it is a popular garnishing ingredient for soups and salads.

Italian or flat leaf Parsley: Very flavorsome and is used during cooking the dish as it retains its flavor till the end.

1. Thyme

Thyme releases its strong, pungent flavor very slowly and hence is mostly added to the recipe along with all the other ingredients. The herb is widely used in dishes that involve tossing, sautéing and stewing such as scrambled eggs, salads and soups. Both fresh and dried forms of the herb are popular ingredients for a wide variety of dishes across multiple cuisines. Thyme also contributes greatly to meat and vegetable preparations and is a significant element for marinades.

Types of Thyme

Thyme comes in as many as 60 varieties, however, there are three most popular kinds that are used extensively across Indian, Italian, French, Spanish, Greek, and even Turkish cuisine.

Garden Thyme: Most common type of Thyme and resembles Lemon Thyme in appearance and flavor.

Lemon Thyme: A more pronounced version of Garden Thyme with a strong lemony aroma, it works best with fish dishes.

Orange Thyme: Its orange peel flavor is an excellent flavoring for roasted meat and vegetables, chutneys and tea.

2. Rosemary

The firm, woody herb with fragrant, needle-like leaves is Rosemary. Bittersweet and lemony in taste, the aromatic herb is popularly used across dishes that involve stuffing or dressing. Besides that, it is also used as a flavoring agent for soups, meat dishes particularly lamb, vegetable platters, and fruit salads. Rosemary leaves are usually minced or crushed well before they're sprinkled on the foods or mixed with spices used for seasoning meats.

5. Sage

Sage in Latin means 'to save' and rightly so because besides being a shrubby culinary herb, it has several healing properties too. Not particularly dark green in color, it is identified with long, circular leaves and a strong peppery flavor. A relatively flexible herb, sage is used in all three forms – fresh, dry and preserved. In fact, freshly plucked sage is soaked in olive oil and preserved in refrigerator to be used for almost two months. That way, both the leaves and the oil infusion can be used in salad dressings or sautéing purposes. Sage plays the role of a seasoning ingredient for fatty meats such as poultry and pork, which is during the early phase of cooking. This is mainly because it helps in digestion and ensures a toned flavor. Besides this it also compliments stuffed foods such as risotto, tomato sauces, potatoes and beans.

6. Mint

Mint is one of the most commonly used and grown ingredients across the world. It is a fresh, flavorsome, lush green herb that comes with a long shelf life so it can be stored in airtight bags for months. Menthol, its core ingredient gives it the characteristic aroma and flavor. The most flexible flavoring agents among all herbs, mint leaves are used from the beginning of the meal until the very end – appetizers, main course, desserts and beverages! So you can add them to soups, salads, lemonades, cocktails, candies, chocolates, teas and more. Not to mention, as a garnish it is by far the prettiest of the lot too.

✓ Spices

Spices and herbs are defined as plant derived substances that add flavor to any dish. It is difficult to distinguish between the two. Spices can come from the following plant parts: roots, rhizomes, stems, leaves, bark, flowers, fruits, and seeds.

In the culinary arts, the word spice refers to any dried part of a plant, other than the leaves, used for seasoning and flavoring a recipe, but not used as the main ingredient. Why not the leaves? Because the green leafy parts of plants used in this way are considered herbs.

Every other part of the plant, including dried bark, roots, berries, seeds, twigs, or anything else that isn't the green leafy part, is considered a spice. Today, India is the world's largest consumer, producer, and exporter of spices.¹ They even created the Indian Institute of Spices Research devoted to the study of spices.

Common Spices

Allspice: Allspice is the brown dried berry of the tropical *Pimenta dioica* tree, a clove relative native to West Indies and Central America that lends its distinctive flavor to Jamaican jerk seasoning and Swedish meatballs. Allspice got its name in the seventeenth century, when Europeans decided it tastes like a combination of cinnamon, nutmeg, and clove, with which it shares its primary aromatic compound, eugenol.

Anise: Anise seeds are actually the small ovoid fruit of *Pimpinella anisum*, a flowering plant in the parsley family. Anise has a very high concentration of licorice-y anethole, which is 13 times sweeter than table sugar. It's used to flavor drinks such as pastis and ouzo, as well as Greek meat dishes. Candy-coated anise is eaten in India and the Netherlands, where it's also used to flavor milk.

Caraway: The dried fruit of *Carum carvi*, another member of the parsley family, caraway was one of the first spices cultivated in Europe, where it's still used to flavor sauerkraut, pork, and potato dishes. Its warm, anise-y flavor comes from anethole, carvone (rye notes; also found in dill), and limonene (citrusy).

Cardamom: Cardamom comes from the dried fruit of *Elettaria cardamomum*, a member of the ginger family indigenous to southwest India. Its warm, sweet, floral, and fruity flavor is

essential to Nordic baked goods and Arabic coffee. There are two main varieties of cardamom: mysore, which is larger and green in color with woody and eucalyptus notes, and malabar, which is smaller, with floral notes, and often bleached.

- Large cardamom, aka black cardamom, comes from a totally different plant, *Amomum subulatum*, which grows in the eastern Himalayas. It consists of a long reddish pod with strong flavors from cineole and camphor that are often further enhanced by smoking. It's found in savory dishes, such as pho.

Try cardamom in Chef Gordon Ramsay's roasted Turkish-spiced eggplant recipe.

Celery Seed: Celery seed is the teeny-tiny fruit of the same plant that gives us celery stalks. Unsurprisingly, it has a strong celery flavor. It's used as a flavoring in ancient Mediterranean cuisine, and as a medicine in ancient China. Try celery seed in pickles, sausages, and soups, or in a blend with salt to make celery finishing salt.

Chiles: Chiles are fruits whose seeds are protected by the pungent, burning chemical capsaicin. They're the most popular spice worldwide, with a consumption rate 20 times greater than that of the second most popular spice, black pepper. There are 25 species of *Capsicum*, of which only five have been domesticated. Most of the chiles we eat come from *Capsicum annuum*, first cultivated in Mexico 5,000 years ago. Chiles are often eaten fresh, but drying them for the spice cabinet will concentrate their flavors.

- Dried whole chipotle and ancho chiles are used in Mexican cuisine to flavor soups and stews.
- Crushed into flakes, dried whole chiles become Korean gochugaru, essential to kimchi.
- Aleppo pepper adds heat to Middle Eastern cuisine.
- In Hungary and Spain, chiles are ground into fine paprika pepper, which can be sweet or hot, or smoked. Paprika makes an appearance in Chef Thomas Keller's fried chicken recipe.

Cinnamon: Cinnamon is a spice that comes from the inner bark, or phloem layer, of the tropical *Cinnamomum* tree, sold as rolled quills (sticks) or ground into a fine powder. Cinnamon contains several aromatic compounds, the most recognizable of which is

cinnamaldehyde, which gives cinnamon its spicy bite. Several different species of *Cinnamomum* are sold for culinary use.

- *Cinnamomum cassia*, the most popular variety in East Asia and the U.S., has dark, thick, coarse quills in a double-spiral shape, and a bittersweet, burning-spicy flavor due to high levels of cinnamaldehyde. This is the type of cinnamon used in Chinese five spice powder.
- *Cinnamomum verum*, aka *Cinnamomum zeylanicum*, Ceylon, or “true” cinnamon, has brittle, smooth quills with a single spiral that’s tan on the outside and dark red-brown on the inside. In terms of flavor, it’s more delicate than *Cinnamomum cassia*, with less cinnamaldehyde and more floral and clove-like notes (from linalool and eugenol, respectively). Try *Cinnamomum verum* in Mexican dishes such as arroz con leche and carnitas.

Cinnamon goes particularly well with sugar. It’s also used a lot in meaty savory dishes such as Moroccan tagines. Try it in Chef Gordon Ramsay’s perfect rack of lamb recipe.

Cloves: Cloves are the immature dried flower buds of the *Syzygium aromaticum* tree, native to Indonesia, and used in Chinese cuisine for thousands of years and in Europe since the Middle Ages. Their 14 to 20 percent essential oil content means that cloves have the highest concentration of aroma compounds of any spice. Their distinct flavor comes from antimicrobial eugenol, which has made cloves a popular medicine. These dried flower buds, with their medicinal flavor, are essential in dishes as diverse as roasted ham, Chinese five spice, apple crumble, and mulled wine. Go easy with them, as they can easily overpower. Try cloves in

Coriander: Coriander seeds come from the small fruits that appear after the cilantro herb flowers. They can be harvested when green, or they can be left to brown and dry out on the plant. Pounded fresh green coriander has a bright flavor that’s ideal for dressing a salad. The dried, tan pods most often found in spice cabinets have a citrusy, floral taste that is often paired with cumin in Indian cuisine, Moroccan tagines, homemade burgers, or poaching liquor for fish. Try it in Chef Gordon Ramsay’s crispy duck with endive salad.

Cumin: Cumin comes from the small, ridged dried fruits of *Cuminum cyminum*, native to Southwest Asia. Cumin seeds look similar to caraway seeds, and also taste somewhat alike. Cumin's main flavor compound is cumaldehyde, also found in eucalyptus. Chef Alice Waters likes to toast cumin to make cumin finishing salt. Try cumin-spiced yogurt or use cumin as rub for skirt steak to make carne asada tacos.

Dill Seed: Dill seed is the dried oval fruit of the same plant that produces the fresh herb of the same name. It's native to the Mediterranean and southeastern Europe, and used there to flavor gravlax, borscht, and pickles. Its main flavor compound is carvone, also found in caraway and spearmint.

Dried Herbs: Spices are generally thought of as bark, fruit, or seed parts, while herbs are usually considered fresh plant leaves. But there are a few dried leaves that deserve a place in the spice cupboard, including rosemary, curry leaves, thyme, kaffir lime leaves, and oregano. Keep in mind that dried herbs typically taste different from their fresh varieties and can't be substituted one-to-one. One of the most common dried herbs is bay leaf, which comes from the laurel family and is most often used to flavor soups, stews, braises, and marinades. Sassafras leaves, also from the laurel family, are dried and then ground into a powder to make filé, used in gumbo and other Creole dishes.

Fennel: Fennel seeds are the small dried fruits of the fennel plant, which is also eaten as a vegetable (bulb) and herb (fronds). Fennel has a strong anise flavor (from anethole) as well as bitter (fenchone), floral, fresh, and pine notes. Native to southwest Asia and the Mediterranean, fennel grows like a weed in parts of the US. It pair well with pork and is an essential component of Italian sausage and Ethiopian berbere seasoning. Try it in Chef Thomas Keller's braised artichokes here.

Fenugreek: Fenugreek is a flat, yellow-brown seed from a Mediterranean plant in the pea family. It has bittersweet/burnt-sugar and celery flavors and is used to make chutneys and in the Moroccan spice blend raselhanout. The seeds can be toasted to reduce their bitterness.

Ginger: Ginger comes from the rhizome (underground stem) of *Zingiber officinale*, a tropical flowering plant from the same family as cardamom and turmeric. The sharp bite of fresh

ginger comes from gingerol, an aromatic compound that partly transforms into the sweeter zingerone when heated or dried, which is why the ground ginger we use in pumpkin pie, gingerbread, and gingersnaps, is so much less pungent than the fresh stuff. Try it in Chef Gordon Ramsay's crispy whole branzino.

Grains of Paradise: Grains of paradise are the glossy brown seeds of *Aframomum melegueta*, a reedy plant from the ginger family native to western Africa and the Gulf of Guinea. Woody, floral, and slightly spicy, grains of paradise are used as a substitute for black pepper and as a pickling spice.

Juniper Berries: Juniper berries are actually the small round seed cones of the juniper tree. The immature green "berries" are used to flavor gin, while the mature dark blue ones are crushed in pickling and to make marinades for meat, especially to reduce the gamey flavor of venison and wild boar. Juniper berries are bittersweet, with notes of pine (pinene), wood (sabinene), and pepper (myrcene). Juniper berries are always sold whole since their flavor compounds are very volatile.

Mace: When the plum-like fruits of *Myristica fragrans*, an evergreen tree native to Indonesia, ripen, they split to reveal a shell-covered seed surrounded by a fleshy red outer lattice called an aril. The aril is removed and dried to produce mace, while the seed inside the shell becomes nutmeg. Although they're often used together in spice mixtures for baked goods and ground meats, mace has a sweeter, more refined flavor than nutmeg, which comes from sabinene (fresh), pinene (pine), myristicin (woody), and methyl eugenol (sweet).

Mustard Seed: There are three main types of culinary mustard seed, Mediterranean yellow/white mustard (*Sinapis alba*), which was the first and only pungent spice available to early Europeans, now popular in the US.; Himalayan brown mustard (*Brassica juncea*), which has become the dominant mustard in Europe due to its medium pungency and ease in harvesting; and black mustard (*Brassica nigra*), the most pungent variety.

The burning sensation found in all three types of mustard comes from reactive sulfur compounds called thiocyanates (also found in onions, horseradish, and wasabi) released when plant cell walls are damaged. Thiocyanates are so tiny that they can escape food and

enter nasal passages, which is why very hot mustard can make your nose burn. Cooking mustard seeds significantly lessens this effect.

Nigella: Nigella, aka black cumin, is a small black seed found in southwest Asia, Africa, and the Mediterranean. It has a fennel-like scent and mild, complex flavor reminiscent of caraway, oregano, and nutmeg. Nigella seeds are sprinkled on naan and kneaded into Armenian string cheese.

Nutmeg: When the plum-like fruits of *Myristica fragrans*, an evergreen tree native to Indonesia, ripen, they split to reveal a shell-covered seed surrounded by a fleshy red outer lattice called an aril. The aril is removed and dried to produce mace, while the seed inside the shell becomes nutmeg. Nutmeg contains the same aromatic compounds as mace sabinene (fresh), pinene (pine), myristicin (woody), and methyl eugenol (sweet) plus limonene (citrusy), geraniol (floral), cineole (penetrating), and safrole (sassafras). Nutmeg is used in bechamel sauce, and both nutmeg and mace feature in eggnog and other spicy sweets.

Peppercorns: Unlike with most other spices, there's no real reason to buy pre-ground black pepper, since pepper mills are readily available and easy to use. Wolfgang Puck likes to lightly toast peppercorns in the oven before grinding, an easy way to up the flavor even more.

- Black, green, and white pepper all come from the fruits of the black pepper vine, *Piper nigrum*. The black kind has the strongest flavor. Immature green peppercorns, available dried or brined, are milder than black and used in Asian cuisine, and white peppercorns are just black peppercorns with their outer husks removed, mostly used for aesthetic purposes, such as in white sauces. You'll find all three kinds of *Piper nigrum* in Wolfgang Puck's Pepper Steak With Red Wine Sauce. Whole peppercorns are ideal in braises, like Thomas Keller's Red Wine Braised Short Ribs.
- Szechuan peppercorns come from a different plant entirely, a type of prickly ash of the genus *Zanthoxylum*. They lend their lemony flavor and numbing sensation to Szechuan cuisine and are typically toasted to gain woody notes.
- Japanese sansho comes from *Zanthoxylum* as well, but tastes more citrusy since it's not usually toasted.

- Pink peppercorns come from the Brazilian pepper tree, first marketed as a type of pepper in the 1980s. They have a fresh-pine, citrusy-sweet flavor and are often used in desserts.

Saffron: Saffron is the golden stigma from the autumn crocus flower, likely domesticated in Greece during the Bronze Age. It's the most expensive spice in the world, since the flower stigmas must be painstakingly hand-harvested in a process that takes about 200 hours of labor per pound of dried saffron. Saffron adds its bitter, penetrating, haylike aroma and golden color to bouillabaisse and paella.

Star Anise: Star anise is the reddish-brown star-shaped dried fruit of the *Illicium verum* tree, native to southeastern China and Vietnam. It's not related to anise, but they share the aromatic compound anethole. Star anise adds its sweet flavor to Chinese five-spice powder and Vietnamese phở. Try it in Chef Thomas Keller's pork shoulder à la matignon.

Sumac: Sumac is a dark red spice that comes from the fruit of shrubs from the *Rhus* genus, which is related to cashew and mango plants. It's popular in Middle Eastern and North African cooking, where it's sprinkled on top of hummus and used to flavor meat. Sumac has a tangy, citrusy flavor due to malic and other acids, as well as woody, pine notes.

Turmeric: Turmeric comes from the rhizome (underground stem) of *Curcuma longa*, a ginger relative first domesticated in prehistoric India. Its bright orange-yellow color made it an important dye, and its sharp, earthy flavor is reminiscent of pepper and mustard, lending it well to Moroccan tagines and Indian dal.

Vanilla: What we call vanilla bean is actually the pod-shape fruit that grows on a climbing orchid of the genus *Vanilla*, which includes around 100 species. The pods themselves are 6 to 12 inches long and contain thousands of tiny seeds that stick to the pod walls. Vanilla flavor comes from the vanillin (and around 200 other aromatic compounds) found in both the sticky resin surrounding the seeds and in the pod wall.

Freshly harvested vanilla beans have no scent; they must be damaged to release their aromas, a process which can take anywhere from a few weeks to several months. Once cured, vanilla beans can be processed into vanilla extract, which is made by running alcohol through

chopped-up vanilla beans, and then aging the mixture. Vanilla extract should be added towards the end of cooking since prolonged heat will cause the flavor to disappear. Vanilla bean seeds are a popular addition to crème brûlée and cake frostings. Try it in Chef Thomas Keller's crème anglaise.

6 Common Spice Blends

Using a trusted spice mix is an easy way to add recognizable flavor to a dish. The specific ingredients in spice blends differ from region to region and are often closely guarded family secrets, but some of the most popular are:

African Spices

- Moroccan raselhanout: fenugreek, cinnamon, cloves, coriander, cumin, cardamom, cinnamon, mace, and chili powder
- Moroccan chermoula: onion, garlic, dried cilantro, chili pepper, cumin, and black pepper
- Ethiopian berbere: chili, garlic, ginger, salt, koreima, shallots, ajwain, nigella, coriander, cloves, cinnamon, besobela, fenugreek, thyme, and rosemary
- Egyptian dukkah: hazelnuts, sesame seeds, coriander, and cumin

American Spices

- Jamaican jerk: allspice, nutmeg, black pepper, thyme, cayenne pepper, paprika, sugar, salt, garlic, and ginger
- Mexican recado rojo: annatto, dried oregano, cumin, clove, cinnamon, black pepper, allspice, and garlic
- Cajun blackened seasoning: paprika, mustard powder, garlic, black pepper, onion, dried oregano, cumin, caraway, crushed red pepper, cayenne, thyme, celery seed, and bay leaves
- Pumpkin pie spice: cinnamon, ginger, allspice, cloves, nutmeg, and cardamom

East Asian Spices

- Chinese five spice: star anise, cinnamon, fennel, cloves, and Szechuan or black pepper

- Japanese Shichimi togarashi: sansho, mustard, poppyseed, sesame seed, and dried mandarin peel
- Japanese curry powder: cumin, cinnamon, turmeric, coriander, fenugreek, black pepper, nigella, cardamom, cloves, bay leaves, ginger, dried oregano, dried sage, cayenne, Szechuan pepper, and mace.

French Spices

- Quatre épices: black pepper, nutmeg, clove, and cinnamon
- Fines herbes: dried chervil, tarragon, parsley, and chives
- Herbs de Provence: dried Marjoram, savory, thyme, tarragon, basil, chervil, rosemary, fennel, and lavender.

Indian Spices

- Garam masala: cumin, coriander, cardamom, black pepper, clove, mace, and cinnamon
- Panchphoran: cumin, fennel, nigella, fenugreek, and mustard

Middle Eastern Spices

- Za'atar: marjoram, oregano, thyme, sesame, and sumac
- Zhug: cumin, cardamom, garlic, and chile
- Baharat: black pepper, cumin, cinnamon, and clove

These are all examples of spices. Note too that spices are used in dried form while herbs can be used either fresh or dried.

✓Condiments

A condiment is a preparation that is added to food, typically after cooking, to impart a specific flavor, to enhance the flavor, or to complement the dish. A table condiment or table sauce is more specifically a condiment that is served separately from the food and is added to taste by the diner.

Condiments are sometimes added prior to serving, for example, in a sandwich made with ketchup, mustard or mayonnaise. Some condiments are used during cooking to add flavor or texture: barbecue sauce, compound butter, teriyaki sauce, soy sauce, Marmite and sour cream are examples.

Many condiments, such as mustard or ketchup, are available in single-serving packets, commonly when supplied with take-out or fast food meals.

Here are my 15 essential condiments.

1. **Chili sauce** – 2 types: Thick, spicy sauce – varieties include Asian chili garlic sauce and an Americanized chili sauce sold by Heinz; and a liquid chili-based sauce that comes in varieties, such as Sriracha (Southeast Asian), Tabasco (American brand), Cholula (Mexican).
2. **Chutney** – Southeast Asian (Indian) in origin, I use with fish, chicken and on sandwiches. Can be made with a fruit or vegetable base and either spicy, mild or somewhere in between.
3. **Fish sauce** – Essential for many Southeast Asian foods, fish sauce has an intense flavor. It is often made with anchovies.
4. **Hoisin sauce** – A thick Asian sauce that contains vegetable starch, vinegar, garlic, and peppers. Hoisin is used (often with soy sauce) as a dipping sauce, can be added to pho (the Vietnamese soup/noodle dish), and is great in barbecue sauce.
5. **Horseradish** – Made by grinding up a light colored root, horseradish may be mixed with beet juice for a red colored version that is less strong than the straight white type.
6. **Jam/jelly/preserves** – Typically a sweet topping used on bread, but there are other versions, such as hot pepper jelly and sweet onion jam.
7. **Ketchup** – A thick, tomato-based sauce. My favorite expert on ketchup is Garrison Keillor.
8. **Maple syrup** – Great on French toast, bread pudding, sweet potatoes, pork loin and so much more. This is the pure stuff, not the mass-marketed type diluted with cane sugar or corn syrup variety.

9. **Mayonnaise** – Made from egg yolks, and oil, it can also include mustard, and lemon juice or vinegar. Mayonnaise is often used on sandwiches as an ingredient in tuna, egg and potato salad and as a base for dressings and other sauces.
10. **Mustard** – A paste or thick condiment made from ground mustard seeds and a liquid such as vinegar, lemon juice, or water. There are many varieties, including black mustard (the hottest type) and mustards with added ingredients, from beer to fruits to herbs. Start with a versatile one like Dijon (medium strong) or one that you particularly love.
11. **Oil** – There are lots of different oils used in cooking. I prefer olive oil as a condiment.
12. **Salsa** – A spicy sauce from Mexico or Central America, often made with tomatoes or tropical fruit such as pineapple or mango.
13. **Soy sauce** – A liquid made from fermented soy beans, soy sauce is a key to many Asian dishes.
14. **Vinegar** – A fermented liquid. See my description of balsamic vinegar. Other varieties include sherry, rice wine, red wine, white wine, and cider vinegar.
15. **Worcestershire sauce** – Although its origins may be similar to fish sauce, this brown sauce has a distinct taste. The English version typically has sugar and vinegar as well as other ingredients. It is often used on fish or meat, alone or with other ingredients.



Activity 2: Guided Practice



Task: 2

1. Trainees are guided in Kitchen workshop and grouped depending on their number.
2. Trainees are guided to answer the following questions:
 - a. Select flavorings and seasonings needed for Bechamel sauce preparation.
 - b. Explain the reason why it is important to add flavorings and seasonings

Key Facts:

Flavourings and seasonings are properly identified

- ✓ Bechamel sauce flavorings and seasonings properly selected according to the recipe.
- ✓ Flavorings are properly identified based on recipe requirement.
- ✓ Seasonings are selected based on recipe requirement.



Activity 3: Application



Task: 3

1. Trainees are guided in Kitchen workshop and grouped depending on their number.
2. Trainees are guided to answer the following questions:
 2. Flavorings and seasonings needed for Bechamel sauce preparation selected.
 3. Each group present, and the class agree or disagree on each group performance.



Formative Assessment

True or False Questions

1. Food commodities are the necessity of man which composed of different nutrients such as carbohydrate, protein, fat, vitamins, and minerals. And these nutrients are essential for growth, development, and maintenance of good health throughout life.

True

False

Answer:

2. When preparing stocks for sauce and soups mise en place, it is very important to season stocks to add taste.

True

False

Answer:.....

3. The term food quality represents the sum of all properties and attributes of a food item that are acceptable to the customer.

True

False

Answer:.....

4. Culinary herbs are aromatic edible plants used in small amounts to add flavor to dishes. And most herbs are used for both culinary and medicinal uses and come from plants that may be used for their leaves, as herbs, and also for their seeds, as spices.

True

False

Answer:.....

1. A condiment is a preparation that is added to food, typically after cooking, to impart a specific flavor, to enhance the flavor or to complement the dish.

True

False

Answer:.....

Open Ended Questions

1. State two categories food commodities and give out three examples on each one?

Answer:

.....
.....

2. Describe at least four factors to consider while purchasing food commodities?

Answer:

.....
.....

3. What are the points to kept in mind when selecting/ purchasing the following food commodities:

Perishables

.....
.....

Non-perishables

.....
.....

Multiple choice questions

1. Which one of the following is not food flavourings:

- a. Salt
- b. Peppers
- c. Herbs
- d. Spices

Answer:

2. What condiment among the following is made from egg yolks, and oil, it can also include mustard, and lemon juice or vinegar and often used on sandwiches as an ingredient in tuna, egg and potato salad and as a base for dressings?

- a. Chili sauce
- b. Ketchup
- c. Mayonnaise
- d. Mustard
- e. Soy sauce
- f. Vinegar

Answer:.....



Points to Remember

Always, remember these advices:

- When choosing the right food, there are many factors to consider, including taste, nutrition, culture, affordability, and personal preference. It is a common misconception that everything that tastes good is bad for you.
- Read the label before purchasing groceries
- Remember that everyone's nutritional needs are different. Consider reading both the nutrition facts and the list of ingredients. See How to Read Nutrition Facts on Food Labels for more information. Some consumers, for example, are very concerned about avoiding high-fructose corn syrup. Reading the ingredients can also tell you what kind of oil (such as canola, soy, or palm) is used in the food. Read the nutrition facts to find foods that meet your nutritional needs. Some people need to lose weight and eat low-calorie foods; other people need to gain weight and eat high-calorie foods. Some people have digestive disorders and need to increase or decrease their intake of fiber.



Self Reflection

At the end of every unit trainees should:

- 1) Re-take the self assessment they did at the beginning of the unit.
- 2) Fill in the table above and share results with the trainer for further guidance.

Areas of strength	Areas for improvement	Actions to be taken to improve
1.	1.	1.
2.	2.	2.

Further Information for the Trainee

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UNIT 3: PREPARE INGREDIENTS



Figure 10: Preparing Ingredients for mise en place

Unit summary:

This unit described the knowledge, skills and attitudes needed to identify food commodities.

Animal based food commodities and plant based were identified, and flavorings and seasonings were identified.

Self-Assessment: LO 3

1. Look at the illustration. What is happening? What do you think this learning outcome will be about?
2. Fill in the self assessment below.

There are no right or wrong ways to answer this survey. It is for your own use during this course. Think about yourself: do you think you can do this? How well? Read the statements across the top. Put a check in column that best represents your situation. At the end of this learning outcome, we'll take this survey again.

My experience	I don't have any experience doing this.	I know a little about this.	I have some experience doing this.	I have a lot of experience with this.	I am confident in my ability to do this.
Knowledge, skills and attitudes					
Define ingredients					
Describe measuring units.					
Explain measuring units' conversions.					
What is your understanding about preliminary preparation					
List out the preliminary preparation activities for ingredients.					
Select and apply the correct preliminary					

My experience	I don't have any experience doing this.	I know a little about this.	I have some experience doing this.	I have a lot of experience with this.	I am confident in my ability to do this.
Knowledge, skills and attitudes					
preparation activities for a whole fish.					
Describe the preliminary preparation techniques for poultry.					

Table 11: Self-Assessment: Unit 3

Key Competencies:

Knowledge	Skills	Attitude
1. Measure ingredients.	1. Use right measuring tools	1. Ingredients are well measured and measuring tools are handled carefully.
2. Identify preliminary preparation activities for poultry.	2. Apply preliminary preparation activities for poultry.	2. Preliminary preparation activities for poultry are applied properly.
3. Select preliminary preparation techniques for fish.	3. Apply the right preliminary preparation techniques for whole fish.	3. Preliminary preparation techniques for whole fish are applied effectively.

Table 12: Key Competencies: Unit 3

Discovery activity



Task:

Activity1:

1. Discuss the following questions with your partner (pair):
 - a. What do ingredients mean?
 - b. Explain preliminary preparation activities for a whole fish?
 - c. Apply right preliminary techniques for poultry.
2. Discuss with your pair all the questions (1., 2., 3)
3. Share your findings on the questions (3) with the rest of the class. Compare and discuss your ideas.

Response:

Answers for the above questions

1. The meaning of ingredients?

A food that is used with other foods in the preparation of a particular dish.

2. Preliminary preparation activities for a whole fish?

Step 1: Prepare your fish, Knife and cutting board ready

To begin, rest the fish on the table or cutting board. Select a sharp knife and blue cutting board.

Step 2: Removing Fish Scales

Using the back of your knife remove the scales by pushing from the tail towards the head. There are lots of scales so keep going, covering all areas of the fish.

Step 3: Opening the Belly and Removing Organs

Locate the exit point of the fish (the anus) and inserting your knife blade up, carefully cut the belly open right up to the area between the fins.

Step 4: Getting Messy

Insert your hand into the cavity and grasping the organs begin to pull them out. The organs are tough and well attached so you'll need to pull hard. Continue working until the cavity is empty. You may want to rinse the area under running water to clear away some of the fluids.

Step 5: Removing the Head

Use your knife to cut just behind the head and front fins. Slice through the flesh on the top and both sides. You'll need to apply a bit of downward force to cut through the spine use a heavy knife or cleaver and keep your fingers out of the way.

Step 6: Removing the fins

To remove the fins, firmly hold the top of the fin with one hand, and with the other hand place the knife between fish and fin and cut carefully.

Step 7: Rinse under running water and wipe your Fish

Clean and rinse the cavity out with a good stream of water and wash the skin. Some fish have a dark tissue lining the abdominal cavity that can be scraped off to prevent a strong, oily flavor. Clean table immediately, collect the guts, heads, and scales, and discard them properly. Now your fish is ready to be cooked.

3. Preliminary techniques for poultry

- ✓ Slaughtering
- ✓ Plucking
- ✓ Drawing
- ✓ Skinning
- ✓ Trussing
- ✓ Barding
- ✓ Cutting
- ✓ Deboning
- ✓ Washing
- ✓ Marinate

Topic 3.1: Measuring ingredients



Figure 11: Measuring ingredients for mise en place



Activity 1: Problem Solving



Task: 1

1. Sit in group of 4-5 and discuss on situation written as follow:
 - a. Kwetu hotel Executive chef want to produce 100 dessert queen cakes for people who reserved for the event and his is expecting to get 20 cakes from 1kg of cake flour, 10gr of butter, 5gr salt, 100 ml of milk, 10gr of baking powder, and 3 eggs, how will you measure the ingredients for getting 100 cakes for the event.
2. Read the situation, discuss, and brainstorm and answers to the following questions:
 - a. Measure ingredients that that Kwetu hotel Executive chef will need producing 100 queen cakes for the event.
 - b. Apply the correct measuring units

- c. Convert Measuring units properly
3. Take a time to brainstorm and discuss the questions in your respective groups.
4. Present your work in a plenary session.
5. Find responses in key facts in your training manuals.

Key Facts (Indicative contents)

- **Measuring ingredients**

It may sound obvious, but the key to successful cooking and baking is to always measure the ingredients carefully. Here are some helpful measuring tips. Dry ingredients (like flour and sugar) should be measured using flat-cup measures. Ingredients should be level. Running the back of a flat-bladed knife across the surface is a good way to do this. Spoon measures must be measured with the correct sized spoons. A level spoon is essential. Liquid ingredients should be measured in jugs. Set the jug on a flat surface and check at eye level.

- ✓ **Description of measuring units**

A unit of measurement is a definite magnitude of a quantity, defined and adopted by convention or by law, that is used as a standard for measurement of the same kind of quantity.

The units of measurement are the units that are used to represent physical quantities like length, mass, temperature, current, area, volume, intensity, etc. We use different measurement units to represent the magnitude of the physical quantities including the traditional units, the Metric System of units, the imperial system of units. Units of measurement have also evolved and played a crucial role from the early ages till the present. We use the measuring units to compare how large or small a physical quantity is as compared to the basic standard quantity.

In this learning outcome, we shall explore the concept of metric and imperial units of measurement. We will also discuss the various measurement units used for measuring length, mass, time, temperature, and volume. We shall solve various examples using the different units of measurement for a better understanding of the concept. There are two types of Units of Measurement such as: Metric Units of Measurement and Imperial Units of Measurement.

- **Metric Units of Measurement**

The metric units of measurement in mathematics are standard units defined to measure length, height, weight, area, and capacity (volume). It is based on the decimal system as it includes numbers in powers of 10. The modern form of the metric units are called the SI units and are accepted worldwide. Each unit has a universally recognized size. Let us see some of the commonly used SI units in the table below.

SI units of measurement are units of the international system of units, also known as the metric system which is used across the world and each unit has a standard measure.

Physical Quantity	SI Unit of Measurement	Symbol
Length	Meter	m
Mass	Kilogram	kg
Temperature	Kelvin	K
Time	Second	s
Capacity/Volume	Litre	L
Current	Ampere	A
Amount of Substance	Mole	mol

Table 13:Metric Units of Measurement

Source: edited by Author,

Cited:http://content.nroc.org/DevelopmentalMath/COURSE_TEXT_RESOURCE/U06_L2_T1_text_final.html

Unit of Measurement List

The table above shows the SI units but in culinary we use other units as well to measure the given physical quantities. Let us list some of the commonly used units of measurement below:

- Length - kilometer, meter, centimeter, millimeter
- Mass - kilogram, gram, milligram
- Capacity - kilolitre, liter, milliliter, centiliter
- Time - Minute, Hour, Second, Days, Week, Month, Year
- Temperature - Kelvin, Celsius, Fahrenheit

- **Imperial Units of Measurement**

Imperial units of measurement are the units from the British Imperial System (System of Weights and Measures used in Great Britain). As we discussed the metric units, the imperial system uses different units to measure the physical quantities like length, mass, volume, and area. Let us go through imperial units of measurement in the table below:

Physical Quantity	Imperial Units
Length	foot, inch, yard, mile
Mass	ounce, pound, stone, ton
Capacity	gallon, pint, quart, fluid ounce

Table 14 Imperial Units of Measurement

Source: edited by Author from: <https://byjus.com/maths/metric-system/>

Note: The imperial units of measurement can be expressed in terms of the metric units and vice-versa as they are standard units.

✓ Measuring units conversions

All the above units for a specific physical quantity can be expressed in terms of each other using the conversion of the units of measurement.

System	Units of Measurement	Conversion
Metric Units	Centimeter (cm)	1 cm = 10 mm
	Meter (m)	1 m = 100 cm
	Kilometer (km)	1 km = 1000 m
	Millimeter (mm)	1 mm = 0.001 m
Imperial Units	Foot (feet)	1 foot = 12 inch
	Inches (inch)	1 inch = 0.83333 feet
	Mile	1 mile = 5280 feet
	Yard	1 yard = 3 feet = 36 inch

Table 15: Measuring units conversions

Source: edited by Author from: <https://thirdspacelearning.com/gcse-maths/ratio-and-proportion/metric-units-of-measurement/>

Units of Measurement for Mass

Mass is a physical quantity that tells how heavy or light an object is. It is also commonly called the weight of the object. The SI unit of mass is the kilogram (kg). The table below shows the different and commonly used units of measuring mass in the metric and imperial systems along with their conversions:

System	Units of Measurement	Conversion
Metric Units	Milligram (mg)	1 mg = 0.001 g

System	Units of Measurement	Conversion
	Gram (g)	1 g = 1000 mg
	Kilogram (kg)	1 kg = 1000 g
Imperial Units	Ounce (oz)	1 oz = 0.0625 lb
	Pound (lb)	1 lb = 16 oz
	Ton	1 ton = 2000 lbs

Table 16: Units of Measurement for Mass

Source: edited by Author from: <https://byjus.com/maths/metric-system/>

Please note that there are other units of measurement of mass that are used such as tonnes, stone, microgram imperial ton, etc. The above table shows the commonly used units only.

Units of Measurement for Volume

Volume, also known as the capacity, gives the amount of space that an object occupies or the maximum space the object has. The SI unit of volume is litre (L). We can also express the units of measuring volume in terms of cubic length units such as centimeter cube (cm^3), meter cube (m^3), etc. Let us go through some of the commonly used units of measurement of volume in the table below:

System	Units of Measurement	Conversion
Metric Units	Milliliter (ml)	1 m = 0.001 l
	Liter (l)	1 l = 1000 ml
	Kilolitre (kl)	1 kl = 1000 l

System	Units of Measurement	Conversion
	Cubic Centimeter (cm ³)	1 l = 1000 cm ³
Imperial Units	Fluid ounce (fl. oz.)	1 fl. oz. = 1/20 pt
	Gallon (gal)	1gal = 128 fl. oz.
	Pint (pt)	1 pt = 16 fl. oz.

Table 17:Units of Measurement for Volume

Source: edited by Author from:<https://www.splashlearn.com/math-vocabulary/measurements/liter#:~:text=A%20liter%20is%20a%20metric,is%20equal%20to%201000%20milliliters.>

Units of Measurement for Temperature

Temperature is a physical quantity that describes how hot or cold an object or the weather is. We have mainly three units of measurement of temperature, Celsius, Kelvin, and Fahrenheit. Kelvin is the SI unit of measuring temperature. The table given below shows the different units of measuring temperature and their conversion.

Units of Measurement	Conversion
Celsius (C)	0°C = 273.15 K = 32°F
Kelvin (K)	0 K = -273. 15°C = -459.57 °F
Fahrenheit (F)	0°F = -17.778°C = 255.372 K

Table 18:Units of Measurement for Temperature

Source: edited by Author

from:https://www.varsitytutors.com/hotmath/hotmath_help/topics/temperature

Generally, for the conversion of temperature, we use the formula $C/5 = (F - 32) / 9 = (K - 273.15) / 5$. This formula helps to express the temperature in different units.

Units of Measurement of Time

Time is a measure that tells about the time taken to complete a process, travel from one point to another. It is an ongoing process of continuous events. We measure time in three units, seconds, minutes, hours, days, weeks, months, and years. The table given below describes these units and their relation with each other.

Units of Measurement	Conversion
Second (s)	1 s = 1/60 min
Minute (min)	1 min = 60 s
Hour (hr)	1 hr = 60 min = 3600 s
Day	1 day = 24 hr
Week	1 week = 7 days
Month	1 month = 4 weeks
Year	1 year = 12 months

Table 19: Units of Measurement of Time

Source: edited by Author from: <https://www.studocu.com/en-us/document/fresno-high-school-ca/chemistry-a/171-gizmos-unit-conversion-ramirez-daniel/42130477>

These units of measurement of time are standard and are followed all across the world.

Units of Measurement Chart

Now that we have discussed the different units of measurement used across different systems of measurement, let us summarize the units in a chart below for a quick review:

Quantity	Units of Measurement
Length	Meter, Kilometer, Centimeter, Millimeter, Feet, Yard, Inch, Mile
Mass	Gram, Milligram, Kilogram, Ounce, Pound, Ton
Volume	Liter, Milliliter, Kilolitre, Gallon, Pint, Fluid Ounce
Time	Second, Minute, Hour, Day, Month, Week, Year
Temperature	Kelvin, Celsius, Fahrenheit,

Table 20: Units of Measurement Chart

Source: edited by Author from: <https://www.nist.gov/pml/owm/si-units-volume>

Important Notes on Units of Measurement

- The units of measurement are the units that are used to represent physical quantities like length, mass, temperature, current, area, volume, intensity, etc.
- We use two systems of units of measurement - metric and imperial.
- In the early days, hand span, arm span, and foot span were used as units of measurement.

Units of Measurement Examples

- **Example 1:** What is the unit 'acre' used for? Express one acre in terms of sq. yards and sq. feet.

Solution: An acre is a unit of measurement of area. Earlier, it was used to measure the size of the field. One acre is equal to 43,560 square feet. We can also express acre in terms of square yards.

1 acre = 43,560 square feet = 4840 square yards.

Answer: 1 acre = 43,560 square feet = 4840 square yards.

- **Example 2:** Convert 5 kilograms in an imperial unit of measurement pound.

Solution: We know that 1 kilogram is approximately equal to 2.2 pounds. So, 5 kg in pounds is given by,

$$5 \text{ kg} = 5 \times 2.2 \text{ pounds}$$

$$= 11 \text{ pounds}$$

Answer: 5kg is equal to 11 pounds.

- **Example 3:** How many feet are there in 3 miles?

Solution: We know that 1 mile is equal to 5280 feet. So, 3 miles in feet are given by,

$$3 \text{ miles} = 3 \times 5280 \text{ feet}$$

$$= 15,840 \text{ feet}$$

Answer: 3 miles is equal to 15, 840 feet.

✓ Measuring units conversions

Volume and weight conversions are an important resource to have in the kitchen. When halving or doubling a recipe, making the correct conversions can make or break your final results.

- **Volume Conversions**

This table is a helpful overview for quick conversions:

Teaspoons	Tablespoons	Ounces	Cups	Pints	Quarts	Gallons	Milliliters	Liters
3	1	1/2	1/16				15	0.015
12	4	2	1/4				60	0.06
24	8	4	1/2				125	0.125
48	16	8	1	1/2	1/4	1/16	250	0.25
		16	2	1	1/2	1/8	500	0.5
		32	4	2	1	1/4	950	0.95

Teaspoons	Tablespoons	Ounces	Cups	Pints	Quarts	Gallons	Milliliters	Liters
		128	16	8	4	1	3800	3.8

Table 21: Volume Conversions Source: edited by Author from: <https://www.nist.gov/pml/owm/si-units-volume>

Key Volume Conversions

Use this quick cheat sheet for the equivalents:

- 1 tablespoon = 3 teaspoons = 15 milliliters
- 4 tablespoons = 1/4 cup = 60 milliliters
- 1 ounce = 2 tablespoons = 30 milliliters
- 1 cup = 8 oz. = 250 milliliters
- 1 pint = 2 cups = 500 milliliters
- 1 quart = 4 cups = 950 milliliters
- 1 quart = 2 pints = 950 milliliters
- 1 gallon = 4 quarts = 3800 milliliters = 3.8 liters

It is important to note that volume ounces are not the same as weight ounces. Liquids and other wet ingredients will likely be measured in volume ounces while dry ingredients (like beans, flour, or sugar) will be measured in weight ounces. On packaged goods, volume ounces are listed as 'NET OZ FL' where FL stands for fluid and weight ounces are listed as 'NET WT OZ' where WT stands for weight. To convert between volume and weight measurements you would need to know the density of the ingredient, so this is not done often.

✓ Imperial vs. Metric Volume Conversions

Most recipes in the United States use volume measurements in imperial units like teaspoons, tablespoons, cups, ounces, pints, quarts, and gallons. Most other countries use the metric system with units such as liters and milliliters. One liter is roughly equal to one quart (1.06L = 1qt).

The advantage of using the metric system is that you don't have to know any messy proportions. Everything is done in multiples of 10 and 100, without any oddball measures such as tablespoons, cups, quarts, etc. which match up in ratios other than 10, such as 4 quarts

per gallon or 3 teaspoons per tablespoon. It is much easier to double or half recipes using the metric system. Once you get to 1000 milliliters, you have one liter. Simple as that.



Activity 2: Guided Practice



Task: 2

1. You brainstorm on the (a) and you present in the plenary session.
2. ,” Kwetu hotel Executive chef requested you as pastry chef to select and measure all ingredients needed to produce 100 queen cakes for the event.”
3. As you have already selected the ingredients that you will need for producing 100 queen cakes for the event.
 - c. Measure ingredients based on recipe standards.
 - d. Use the correct measuring units.
 - e. Convert Measuring units properly
1. Convert the following from gram to kilogram:
 - a. 34g _____
 - b. 9g _____
 - c. 745g _____
 - d. 2’984g _____
 - e. 76’879g _____
2. Convert the following from litre to millilitre:
 - a. 65.87L _____
 - b. 2L _____
 - c. 22L _____
 - d. 0.5L _____
 - e. 129L _____
3. Convert the following from ml to liter:
 - a. 123ml _____
 - b. 5ml _____
 - c. 8’234ml _____

d. 2ml

e. 779ml

4. Convert the following from kilogram to gram:

a. 165.87kg

b. 2kg

c. 2.2kg

d. 0.35kg

e. 129kg



Activity 3: Application



Task: 3

1. Go to the pastry workshop and work on the following questions as illustrated in task 1:
 - g. Select and measure all ingredients needed to produce 100 queen cakes for the event.
 - h. List out the measuring units to be applied.
2. Convert the measuring units accordingly.
3. Present your work individually.

Topic 3.2: Application of preliminary preparations for ingredients

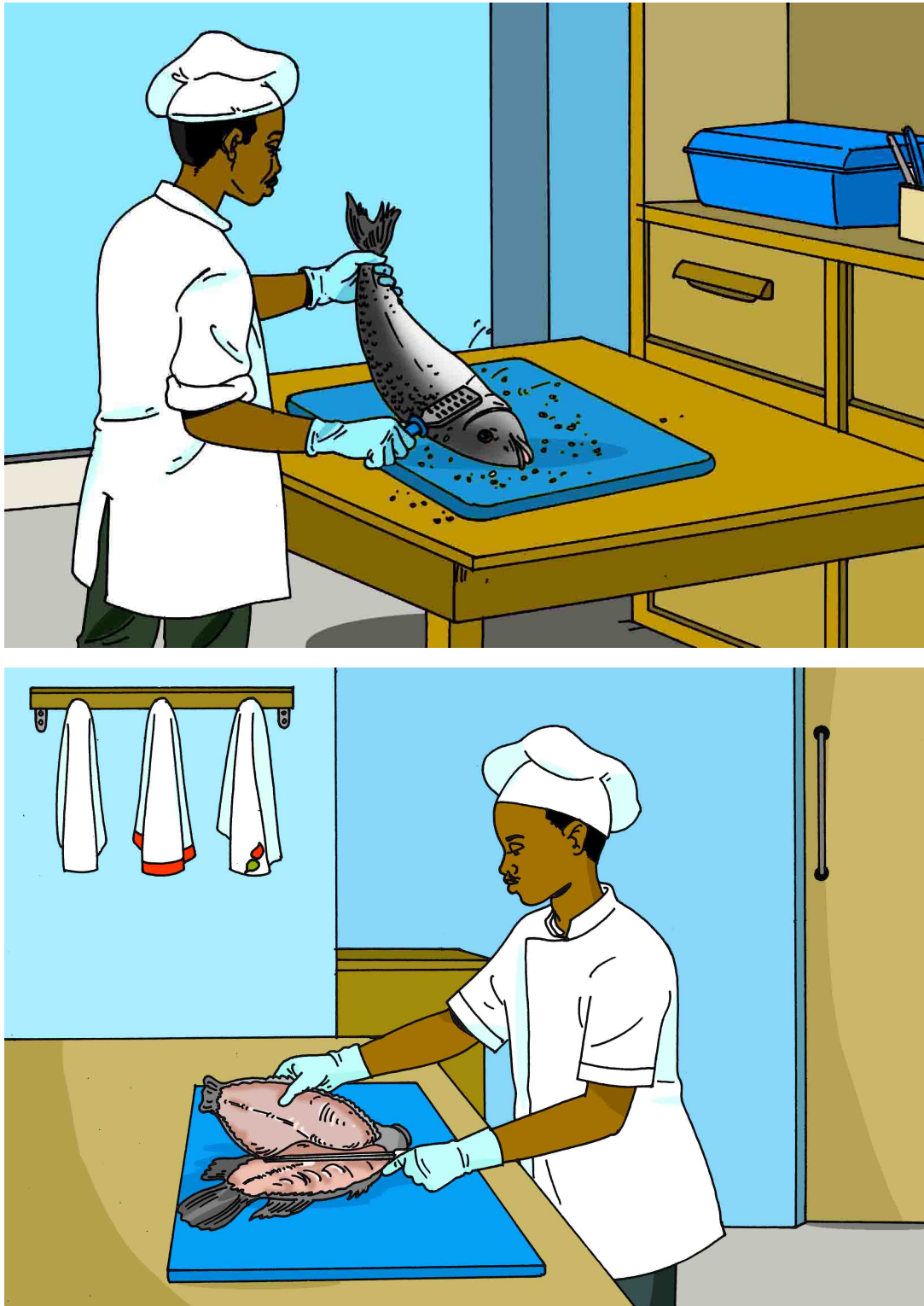


Figure 12: Scaling and Filleting a fish for mise en place



Activity 1: Problem Solving



Task 1:

1. In your groups read this situation:

” Your manager has purchased green beans to be used for coming banquet. Then, he requests you to make mise en place for those green beans”

2. Read the situation, ask trainees to discuss and brainstorm answers to the following questions:

- a. Selected the right tools and equipment needed to make mise en place for green beans
- b. Perform the preliminary preparation activities required to make mise en place for green beans.

3. Take time to brainstorm and discuss the questions in your respective groups.

Present your work in a plenary session.

Find responses in key facts in your manuals.

Key Facts (Indicative contents)

- **Application of preliminary preparations for ingredients**

- ✓ **Definition of preliminary preparation**

Preliminary preparation of food is very essential to prepare healthy delicious dishes. The efficiency of a cook depends on how he/she organizes work in the kitchen. If pre-preparation is thoroughly and systematically done then the service will be carried out smoothly.

A good chef takes pride in the thoroughness and quality of the pre-preparation or mise-en - place (pronounced meez-on-plahss). This French term meaning “everything put in place,” has become almost a professional pass-word in kitchen, because it is important for the success of the establishment.

✓ Preliminary preparation activities

- **Washing**

All raw ingredients should be washed and cleaned before cooking to ensure microbiological safety of food. All vegetables should be washed thoroughly before peeling or cutting. Dry ingredients like cereals and pulses should be cleaned to remove dirt, stones and foreign matter before cooking.

- **Peeling**

Most of the vegetables and fruits are peeled before the preparation of recipe. The outer skin will be peeled using a peeler or knife. Care should be taken to peel the skin very thin because most of the nutrients are under the skin of the fruits and vegetables. Certain vegetables like potatoes can also be peeled after boiling. Tomato skin can be peeled after blanching.

- **Trimming**

Trimming is a technical term in cuisine which means to remove all unwanted or inedible parts from meat, fish poultry or vegetables. Trimming means removing leaves, roots, and other extraneous materials in preparation for grading, sorting, and sale as a whole fruit or vegetable. Trimming does not remove the peel or core and does not further cut the whole fruit or vegetable.

- **Cutting**

Cutting food products into uniform shapes and sizes is important for two reasons:

1. It ensures even cooking.
2. It enhances the appearance of the product

✓ Common Vegetable Cuts:

- Brunoise (broon-wahz); Fine dices (3mm × 3mm × 3mm)

Fine dices are used to make soups, usuli and fried rice.

- **Dicing**

Small dice: (6mm × 6mm × 6mm)

Medium dice: (12mm × 12mm × 12mm)

Large dice: (2cm × 2cm × 2cm)

Medium dice are mostly used in the fried items using yam, raw plantain.

Large dice of vegetables are used in the preparation of mourkuzhambu, sambar.

Julienne (or allumette): (3mm × 3mm × 6cm)

Julienne cuts are used in the preparation of salads and noodles

Batonnet: Means little sticks (6mm × 6mm × 6–7.5cm)

Batonnet cuts are used for making fish fingers.

French fries or pommefrite: 8–12mm sq × 7.5cm long.

The following terms describe other cut-ting techniques:

- **Chop:** to cut into irregular shaped pieces.

Eg: coriander leaves chopped to gar-nish dishes.

- **Concasser** (con-cass-say): to cut coarsely.

Eg: tomato cuts for thokku.

Mince: to chop into very fine pieces.

Eg: meat for cutlets.

Shred: to cut into thin strips, either with the coarse blade of a grater or with a knife.

Eg: Cheese is shred to top sandwiches and pizzas. A complete preliminary pro-cedure is part of the mise-en-place or pre-preparation.

- **Marinating**

Marinating is the process of soaking foods in a seasoned, often acidic, and liquid before cooking.

Marinate means to soak a food product in a seasoned liquid in order to, flavor the product, tenderize the product. Food is soaked in a marinade to add flavour and tenderize it. A marinade is a combination of oil, flavouring agents and acid. Eg: Meat, fish, and vegetables

To marinate means to soak a food product in a seasoned liquid in order to:

- Flavour the product
- Tenderize the product

Note: The tenderizing effect of the acids in the marinade is relatively small. It is still essential to match the proper cut of meat with the proper cooking techniques for greatest tenderness.

- **Kinds of marinade**

1) Cooked

Used when long keeping quality is important. Modern refrigeration has made cooked marinades

less widely used. An advantage of cooked marinades is that spices release more flavor into the

marinade when it is cooked

2) Raw

Most widely used for long marination under refrigeration. An advantage of raw marination under refrigeration is to keep food away from contaminated.

Example for 5 kg meat marinade

- 1 L Red wine vinegar
- 1 L Water
- 500 g Onion, sliced
- 250 g Carrot, sliced
- 2 Garlic cloves, chopped
- 60 g Brown sugar
- 2 Bay leaves
- 3 Whole cloves
- 5 ml Peppercorns, crushed
- 10 ml Salt

3) Instant (wet)

The range of flavors and purposes is wide. Used for marinating a few minutes up to several hours or overnight.

Example for 4.75kg meat marinade

- a. 500 ml Vegetable oil
- b. 60 ml Lemon juice
- c. 10 ml Salt
- d. 10 ml Black pepper
- e. 5 ml Dried thyme

6. Dry

A dry marinade, also called a dry rub or a spice rub, is a mixture of salt, spices, and herbs that is rubbed or patted onto the surface of a meat, poultry, or fish item.

Example of chicken 1.1 kg

- a. 30 ml Paprika
- b. 7 ml Ground cumin
- c. 4 ml Dried thyme
- d. 7 ml Ground coriander
- e. 7 ml Salt
- f. 4 ml Pepper

Guidelines for Marinating

- ❖ Marinate under refrigeration according to the toughness of the product and quantity
- ❖ Tie spices in a cheesecloth bag (sachet).
- ❖ Cover product completely with marinade.

Partial cooking is a significant part of advance preparation. It requires a degree of culinary skill and judgment to determine when and how much cooking is necessary or desirable. Partial cooking may be done by any moist-heat or dry heat methods. Commonly used are simmering or boiling (par boiling), steaming and deep-frying (especially for potatoes). The term blanching may mean any of these methods, but it usually implies very brief cooking.

There are 4 main reasons for blanching or par cooking:

- To increase holding quality:

Heating helps preserve the foods by

- Destroying bacteria that cause spoilage.
- Destroys enzymes that dis-colours foods (as when potatoes turn brown) and help them deteriorate.
- To save time:

It takes less time to finish parboiled vegetables for service than it does raw vegetables. Large batches of foods may be blanched and chilled, and individual portions then finished to order. Items such as roast duck, which would take too long to cook completely to order, are often roasted half to $\frac{3}{4}$ done, then finished as the order are received.

- To remove undesirable flavors:

Some variety meat and certain strong-flavored vegetables such as rutabaga are sometimes blanched to make them milder and more acceptable to the customers.

- To enable the product to be processed further:

For example, vegetables and fruits such as tomatoes and peaches as well as some nuts are blanched to loosen the skin for peeling.

Sweetbreads are blanched so that they will be firm enough for slicing and breading or other kinds of handling.

- **Rubbing**

The rubbing-in method is the process of rubbing fat (butter, lard, margarine) into flour with your finger tips.

- **Stuffing**

Inserting seasoned mixture of ingredients such as bread, eggs, meat, vegetables, and spices in the cavity of poultry, game birds, fish, meat, or vegetables to be baked together.

- **Scaling**

The act or process of removing the scales of fish for skin by using the back of a knife or fish scaler.

- **Skinning**

To remove the skin from fish, vegetables, poultry, or game for reasons which include diet, taste, and appearance.

- **Filleting**

Filleting means to cut a piece of meat or fish from the bones. Or to remove fish fillet from carcass.

- **Sifting**

To separate and retain the coarse parts of (flour, ashes, etc.) with a sieve. to scatter or sprinkle through or by means of a sieve or to sift sugar onto cake.

- **Deboning**

To remove the bones from meat, fish before cooking, the chicken breasts should be deboned with a small, sharp knife.

- **Trussing**

Trussing refers to the technique of tying chicken snugly with kitchen twine so that the wings and legs stay close to the body. Trussing bird brown more beautifully and evenly, resulting in a flavorful, juicy roasted chicken with crispy skin.

- **Straining**

Straining is separation of liquid from solids using a strainer or sieve. straining (puréeing), the process of making a mash or purée by forcing through a sieve, rather than using a power blender.

- **Blanching and refreshing**

Vegetables and fruits are immersed in boiling water for a few minutes and then in cold water. This is called blanching. Blanching used in food preservation as it inactivates the enzymes that cause food spoilage. This method is also used to loosen the skin of fruits to peel them easily and used for purees and canned foods.

- **Poaching**

Poaching is a moist heat method of cooking by submerging food in some kind of liquid and heating it at a low temperature. This is a technique that is used to cook delicate proteins such as fish, chicken, and eggs, as well as some fruits and vegetables.



Activity 2: Guided Practice



Task: 2

1. Trainees are guided in Kitchen workshop and grouped depending on their number. Then guided to select tools and equipment needed to make mise en place for green beans.
3. Trainees are guided to answer the following questions:
 - a. Perform the preliminary preparation activities required to make mise en place for green beans.
3. Plenary session and a brief expert view were provided.



Activity 3: Application



Task: 3

1. Trainees are guided in the in the Kitchen workshop with fish, Group them depending on their number and ask them to:
 - a. Perform the preliminary preparation activities required to make mise en place for green beans.
3. Each group present, and the class agree or disagree on each group performance.

Topic 3.3: Application of preliminary techniques



Figure 13: Trussing a whole chicken for mise en place



Activity 1: Problem Solving



Task 1:

1. In your groups read this situation:

” Your chef has purchased whole tilapia from the local market. Then, he requests you to make mise en place for fish brochettes for dinner”

2. Read the situation and discuss and brainstorm answers to the following questions:

a. Perform the preliminary preparation techniques required to make mise en place for fish brochettes.

b. Select the right tools and equipment needed to perform those techniques.

3. Take a time and brainstorm and discuss the questions in your respective groups.
4. Present your work in a plenary session.

Key Facts (Indicative contents)

- **Application of preliminary techniques**

- ✓ **Pre-preparation of meat**

Meat is edible tissue of animals made of muscles, fat, bones, and connective tissues. Meat refers to the flesh of warm blooded, four legged animals chiefly cattle, sheep. Meat is an important part of your diet for getting protein and a healthy amount of minerals. It doesn't hurt that it's mouthwateringly delicious too. Pre-preparation techniques of meat will vary depending on statement of meat and cooking methods to be applied. So, the following Pre-preparation techniques of meat may be applied:

- ✓ **Trimming**

To trim is a technical term in cuisine which means to remove all unwanted or inedible parts (i.e. sinews, skin, fat etc.) from meat. The removed parts are called trimmings and are used for making stocks, soups and sauces.

- ✓ **Cutting**

Cut meat into individual serving sizes from a primal or sub-primal cut.

- ✓ **Boning**

It is beneficial to remove the backbone from very large rib roasts. This will make the rib roast easier to carve after it is cooked. A meat saw or sharp knife will work well for removing the chine bone. The boneless rib roast can then be rolled and tied before it is roasted.

- ✓ **Larding**

Larding involves threading strips of meat through the meat and as the meat cooks the fat melts from the inside to keep it moist. By coating the strips of fat in herbs or spices before being threaded through the meat larding can also be used as a method to add extra flavour.

✓ **Barding**

Barding is a 19th century technique for wrapping meats in a layer of fat before cooking it. Barding maintains the moisture of the meat while it cooks and helps keep it from overcooking. Barding is only necessary when the meat does not have enough natural fat.

✓ **Thawing**

Thaw frozen meat in the fridge for 24 hours and keep the frozen meat chilled while they thaw so they do not develop harmful bacteria. Meat in the fridge is safe to use 1 to 2 days after it's completely thawed, or it can be refrozen if you end up not using it.

● **Pre-preparation of Poultry**

- ✓ Slaughtering
- ✓ Plucking
- ✓ Drawing
- ✓ Skinning
- ✓ Trussing
- ✓ Barding
- ✓ Cutting
- ✓ Deboning
- ✓ Washing
- ✓ Marinate

● **Cutting up whole Poultry carcasses**

1. Lay the carcass on its back on a cutting board.
2. Cut the skin between the thighs and body of the bird with a sharp knife.
3. Holding a leg in each hand, lift the carcass from the board.
4. Bend the legs back until the hip joints snap free.
5. Cut each leg from the body.
 - Cut from the back to the front close to the backbone.
 - Cut through the knee joint to separate the thigh from the drumstick.
 - Squeeze the thigh and drumstick together to help find the knee joint.
6. Remove the wings.
 - Cut the inside of the wing just over the joint.

- Cut down and around the joint to completely remove each wing.
 - You can cut off the wing tip or fold it back under the wing.
7. Separate the breast from the back.
- Place the carcass on the neck end.
 - Cut from the tail along each side of the backbone through the rib joints to the neck.
 - Cut the back in two pieces by bending it to find the joint, and then cutting through the meat and skin.
8. Split the breast lengthwise.
- Place it skin side down on the cutting board.
 - Cut through the white cartilage at the "V" of the neck.
 - Holding the breast firmly in both hands, bend each side back and push up on the breast from the underside to snap the breastbone free.
 - Remove the breastbone and cut the breast in half lengthwise.

✓ Pre-preparation of Fish

Step 1: Prepare Your fish, Knife and cutting board ready

To begin, rest the fish on the table or cutting board. Select a sharp knife and blue cutting board.

Step 2: Removing Fish Scales

Using the back of your knife remove the scales by pushing from the tail towards the head. There are lots of scales so keep going, covering all areas of the fish.

Step 3: Opening the Belly and Removing Organs

Locate the exit point of the fish (the anus) and inserting your knife blade up, carefully cut the belly open right up to the area between the fins.

Step 4: Getting Messy

Insert your hand into the cavity and grasping the organs begin to pull them out. The organs are tough and well attached so you'll need to pull hard. Continue working until the cavity is empty. You may want to rinse the area under running water to clear away some of the fluids.

Step 5: Removing the Head

Use your knife to cut just behind the head and front fins. Slice through the flesh on the top and both sides. You'll need to apply a bit of downward force to cut through the spine use a heavy knife or cleaver and keep your fingers out of the way.

Step 6: Removing the fins

To remove the fins, firmly hold the top of the fin with one hand, and with the other hand place the knife between fish and fin and cut carefully.

Step 7: Rinse under running water and wipe Your Fish

Clean and rinse the cavity out with a good stream of water and wash the skin. Some fish have a dark tissue lining the abdominal cavity that can be scraped off to prevent a strong, oily flavor. Clean table immediately, collect the guts, heads, and scales, and discard them properly. Now your fish is ready to be cooked.

Before preparing a whole fish, it is important to ensure it is fresh. The gills should be moist and bright red, the eyes full, shiny, and slightly bulging, and the skin glowing, pearly, taut and adhered to the flesh which should be firm and elastic. The scales should be shiny and still firmly attached, and the fish should have a pleasant smell.

Fish is prepared in four stages: scaling, trimming, gutting and, if necessary, filleting. Fish is generally scaled before it is gutted, as it is easier to scale if the belly is slightly rounded. The tools used are a fish scaler or the back of a knife. One hand holds the fish by the tail and the other removes the scales by moving the scaler at a 45-degree angle along the fish, working from the tail towards the head.

Trimming fish involves removing the fins. It is often necessary to wear gloves to do this in order to prevent injury, as the fins of some fish can be very sharp or secrete venom.

There are several methods for removing the guts. The easiest way is to extract them by cutting the stomach open. It is also possible to make an incision of one or two centimeters near the gill.

Filleting is definitely the operation which requires the most dexterity. Round fish produce two fillets while flat fish produce four. These tasks are often performed by the fishmonger or carried out on board factory ships where fish is processed, packed and frozen. It is also possible to buy fillets, cross-section slices (steaks) or pieces of fresh or frozen fish. The best

way to defrost fish is to place it in its original packaging in a refrigerator for between 18 and 24 hours.

Some specific methods of preparation

Carp, which is a pond fish, is first placed in fresh running water for a few days to remove the muddy taste.

The guts of some types of fish are of high nutritional quality. Cod liver oil, for example, is rich in essential fatty acids and in vitamins A and D. Other guts are poisonous, such as those of the fugu. The flesh of this fish is considered a great delicacy in Japan, but the guts contain a deadly toxin and must be removed extremely carefully.

Sashimi is a Japanese dish made from raw fish cut into thin slices. It showcases the chef's expertise in choosing the freshest fish, cutting it and presenting it.

Rolled sushi, or maki sushi, is another Japanese speciality. It is made up of raw or cooked fish, molluscs or shellfish, and seasoned rice. The ingredients are rolled up in a sheet of dried seaweed. The final stage consists in slicing it into rolls. This requires a special knife whose blade is moistened with a blend of vinegar and water between each slicing.

✓ Pre-preparation of Vegetables and fruits

Clean fruits and vegetables before eating, cutting, or cooking, unless the package says the contents have been washed. Wash or scrub fruits and vegetables under running water even if you do not plan to eat the peel. Germs on the peel or skin can get inside fruits and vegetables when you cut them.

Cleaning/Washing

-All raw ingredients should be washed and cleaned before cooking to ensure microbiological safety of food. All vegetables should be washed thoroughly before peeling or cutting. Dry ingredients like cereals and pulses should be cleaned to remove dirt, stones and foreign matter before cooking.

B. Peeling

-Most of the vegetables and fruits are peeled before the preparation of recipe. The outer skin will be peeled using a peeler or knife. Care should be taken to peel the skin very thin because most of the nutrients are under the skin of the fruits and

vegetables. Certain vegetables like potatoes can also be peeled after boiling.

Tomato skin can be peeled after blanching.

C. Grating

-Shredding of certain food-stuffs is called grating. Vegetables and fruits can be grated to make salads interesting. Cheese can be shredded to decorate the foods prepared.

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✓ Grating

Grating-Shredding of certain foodstuffs is called grating. Vegetables and fruits can be grated to make salads interesting. Cheese can be shredded to decorate the foods prepared.

✓ Blanching

Vegetables and fruits are immersed in boiling water for a few minutes and then in cold water. This is called blanching. Blanching is used in food preservation as it inactivates the enzymes that cause food spoilage. This method is also used to loosen the skin of fruits to peel them easily and used for purees and canned foods.

✓ Basic Vegetable Cuts and Shapes

Cutting vegetables into uniform shapes and sizes is important for two reasons:

1. It ensures even cooking.
2. It enhances the appearance of the product.

Basic Vegetable Cuts Chart

Vegetable Cut	Dimensions	Used in	Common Veggies
Julienne	1/8 by 1/8 by 1–2 inches	Salads, green veggies, stir fry's, garnishes	carrots, cucumbers, capsicum, celery, zucchini
Baton	1/3 by 1/3 by 2+1/2–3 inches	Dressings, salads, steak fries	Potatoes and potentially all other vegetables
Batonette	1/4 by 1/4 by 2–2+1/2 inches	French-fries, vegetable sticks and crudites	Carrots, potatoes, cucumbers, etc.
Chiffonade	4-10mm	Stuffing, garnishing, sauté	Leafy greens, herbs

Brunoise	1/8 inch (3 mm)	Garnishes, stuffing, sauces	Turnips, onions, carrots and celery
Macedoine (Small dice)	1/4 inch (5 mm)	Salads, sauté's, even soups	Root vegetables
Parmentier (Medium dice)	1/2 inch (13 mm)	Salads, sauté preparation	Potatoes, tomatoes etc.
Carre (Large Dice)	3/4 inch (20 mm)	Broths, soup, Salads, sautee preparation, vegetables like potatoes, and sometimes fruits such as watermelon.	Almost all veggies and fruits
Slicing	In this cutting technique, foods are cut into thin and relatively broad slices	Salads, Baked, Rosts, Grills.	It can be used on vegetables, fruit,
Paysanne	Paysanne cut consists of slices of vegetables about 1mm thick. 1/2 by 1/2 by 1/8 inches (10 mm × 10 mm × 3 mm)	Sautee preparation, Garnish	It can be used on vegetables, fruit,
Wedges	Round vegetables cut equally lengthwise	Stew, Fried, Grilled, Roasted, Boil, Poached	This technique is used on tomato, potato, lemon, cut into four or six pieces.
Mincing	The mincing technique is used where food ingredients are	As herbs, Stuffing, Garnish	Mincing is the ideal technique for aromatics, such as onion, garlic, and ginger, it is used

	finely divided into uniform pieces.		when a paste texture is required.
Tourne/Chateau	This technique is used to turn vegetables into a barrel shape of 2 inches by 7 sides	Sauteed, Poached, Boiled, Baked	It is used on carrot, potatoes, squash or zucchini etc.

Table 22: Basic Vegetable Cuts and Shapes

Source: edited by Author from: <https://foodandbeverageknowledge.com/14-basic-cuts-of-vegetables-with-sizes/>

- **Pre-preparation of preserves and processed food**

✓ **Canned Foods**

Canned foods often get a bad rap but hidden inside the tiny tin capsules. Give Beans and Veggies a Good Rinse. Thoroughly rinse off the liquid that they come in, to remove can taste. Because Canned Vegetables are already cooked right in the tin, they just need to be heated. Heat right in the liquid they came in, probably for no more than 4 minutes in a saucepan or a minute or two in the microwave in a microwave-safe dish.

- **Pre-preparation of eggs**

If your fresh eggs are dirty or have come into contact with chicken droppings, it's good to clean them before use. To clean fresh eggs, wipe them with a dry, slightly abrasive item such as a sponge to sand off any dirt or droppings. For best egg cleaning follow these steps:

1. Wash eggs in warm water.

Rinse the eggs under warm running water. The warm tap water will draw out any dirt and bacteria from the shell; cold water can cause bacteria to go below the surface of the eggshell. Avoid any cleaning agents such as bleach, soap, or detergent. Eggshells are porous, so any chemicals will pass through the shell pores into the eggs.

2. Dry the eggs.

Use paper towels to carefully dry the eggs.

3. Store the eggs in the refrigerator.

Store the eggs in an enclosed container in the fridge, so they do not lose moisture or absorb any odors from the refrigerator. Preferably, you should store eggs in an egg carton to prevent broken eggs. Refrigeration also reduces the risk of salmonella, which can cause food poisoning.

4. Use mineral oil.

You can spray the eggs with mineral oil to keep them from losing moisture in the refrigerator, but this does not prevent salmonella or other bacteria. Keep eggs until use.



Activity 2: Guided Practice



Task: 2

1. Trainees are guided in Kitchen workshop and grouped depending on their number.
2. Trainees are guided to answer the following questions:
 - a. Perform the preliminary preparation techniques required to make mise en place for fish brochettes.
 - b. Select the right tools and equipment needed to perform those techniques.
2. Trainees are guided in their discussions.



Activity 3: Application



Task: 3

1. Trainees are guided in Kitchen workshop and grouped depending on their number.
2. Trainees are guided to answer the following questions:
 - a. Perform the preliminary preparation technique required to make mise en place for fish brochettes.

- b. Select the right tools and equipment needed to perform those techniques.
3. Each group present, and the class agree or disagree on each group performance.



Formative Assessment

True or False Questions

1. The key to successful cooking and baking is to always measure the ingredients carefully and a unit of measurement is a definite magnitude of a quantity, defined and adopted by convention or by law, that is used as a standard for measurement of the same kind of quantity.

True

False

Answer:

2. Mass as units of measurement is a physical quantity that tells how heavy or light an object is. It is also commonly called the weight of the object. And the SI unit of mass is the kilogram (kg).

True

False

Answer:.....

3. Based on the conversion of units of measurement $1\text{ g} = 10000\text{ mg}$ and $1\text{ kg} = 10000\text{ g}$?

True

False

Answer:.....

4. Preliminary preparation of food is very essential to prepare healthy delicious dishes. And the efficiency of a cook depends on how he/she organizes work in the kitchen.

True

False

Answer:.....

Open Ended Questions

1. State and explain Kinds of marinade made kitchen during mise en place and give one advantage of each?

Answer:.....
.....
.....

2. Describe steps for preliminary preparation activities for a mise en place of a whole fish?

Answer:.....
.....
.....

3. What are the Preliminary techniques for poultry mise en place?

Answer:.....
.....
.....

4. Convert the following from gram to kilogram:

- a. 34g
.....
- b. 9g
.....
- c. 745g
.....
- d. 2'984g
.....
- e. 76'879g
.....

5. Convert the following from litre to millilitre:

- a. 65.87L
- b. 2L
- c. 22L
- d. 0.5L
- e. 129L

6. Convert the following from ml to litre:

- a. 123ml
- b. 5ml
- c. 8'234ml
- d. 2ml
- e. 779ml

7. Convert the following from kilogram to gram:

- a. 165.87kg
- b. 2kg
- c. 2.2kg
- d. 0.35kg
- e. 129kg

Multiple choice questions

1. Which one of the following Unit of Measurement is not mostly used in culinary:

- a. Length
- b. Mass
- c. Capacity
- d. Time
- e. Temperature

Answer:.....

2. What application of preliminary techniques for meat among the following involves threading strips of meat through the meat and as the meat cooks the fat melts from the inside to keep it moist?

- a. Trimming
- b. Cutting
- c. Boning
- d. Larding
- e. Barding
- f. Thawing

Answer:.....



Points to Remember

Always, remember these advices:

- When cutting remember to apply a sharp knife. Unless a stone is the best tool for sharpening a knife. Electric sharpeners wear away too much of your expensive knife, and they do not make as good an edge.
- Tools for mise en place preparation should be clean and functioning well to facilitate quick working.
- To keep recipes standard, correct kitchen measuring tools should be used and the right quantity of ingredients should be measured.



At the end of every unit trainees should:

- 1) Re-take the self assessment they did at the beginning of the unit.
- 2) Fill in the table above and share results with the trainer for further guidance.

Areas of strength	Areas for improvement	Actions to be taken to improve
1.	1.	1.
2.	2.	2.

Further Information for the Trainee

Colorado State University, U.S. Department of Agriculture, and Colorado counties cooperating. Extension programs are available to all without discrimination. No endorsement of products mentioned is intended nor is criticism implied of products not mentioned.

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UNIT 4: SET AND ARRANGE BUFFET STATION



Figure 14: Setting and Arranging Buffet Station

Unit summary:

This unit described the knowledge, skills and attitudes needed to measure ingredients.

Application of preliminary preparations for ingredients, and application of preliminary techniques for ingredients.

Self-Assessment: LO 4

1. Look at the illustration. What is happening? What do you think this learning outcome will be about?
2. Fill in the self assessment below.

There are no right or wrong ways to answer this survey. It is for your own use during this course. Think about yourself: do you think you can do this? How well? Read the statements across the top. Put a check in column that best represents your situation. At the end of this learning outcome, we'll take this survey again.

My experience	I don't have any experience doing this.	I know a little about this.	I have some experience doing this.	I have a lot of experience with this.	I am confident in my ability to do this.
Knowledge, skills and attitudes					
Define food commodity.					
Define Buffet					
Explain the use of buffet tools					
Select 5 criteria to follow while positioning Buffet station.					
Classify 5 buffet equipment.					
Describe the Buffet alignment procedures.					

My experience	I don't have any experience doing this.	I know a little about this.	I have some experience doing this.	I have a lot of experience with this.	I am confident in my ability to do this.
Knowledge, skills and attitudes					
What are criteria to follow for Buffet layout.					
List down tools and equipment used for Buffet Station Decoration					
Explain procedure for buffet decoration.					

Table 23: Self-Assessment : Unit 4

Key Competencies:

Knowledge	Skills	Attitude
1. Identify buffet tools and equipment	1. Select buffet tools and equipment	1. buffet tools and equipment are handled with care
2. Align buffet station	2. Select the right way to align buffet station.	2. buffet stations are aligned properly
3. Explain the procedure for Buffet Station Decoration.	3. Decorate Buffet Station securely	3. Buffet Station is decorated attractively.

Table 24:Key Competencies: Unit 4

Discovery activity



Task:

Activity1: Task1

Discuss the following questions with your partner (pair):

1. What does buffet mean?
2. Classify buffet tools.
3. List out 5 buffet equipment?
4. Buffet alignment procedures?
5. How can you decorate a buffet station?
6. What are rules to follow while decorating the buffet station?

Discuss with your pair all the questions (1;2; 3; 6)

Share your findings on the questions (4, 5) with the rest of the class. Compare and discuss your ideas.

Topic 4.1: Selection of tools and equipment

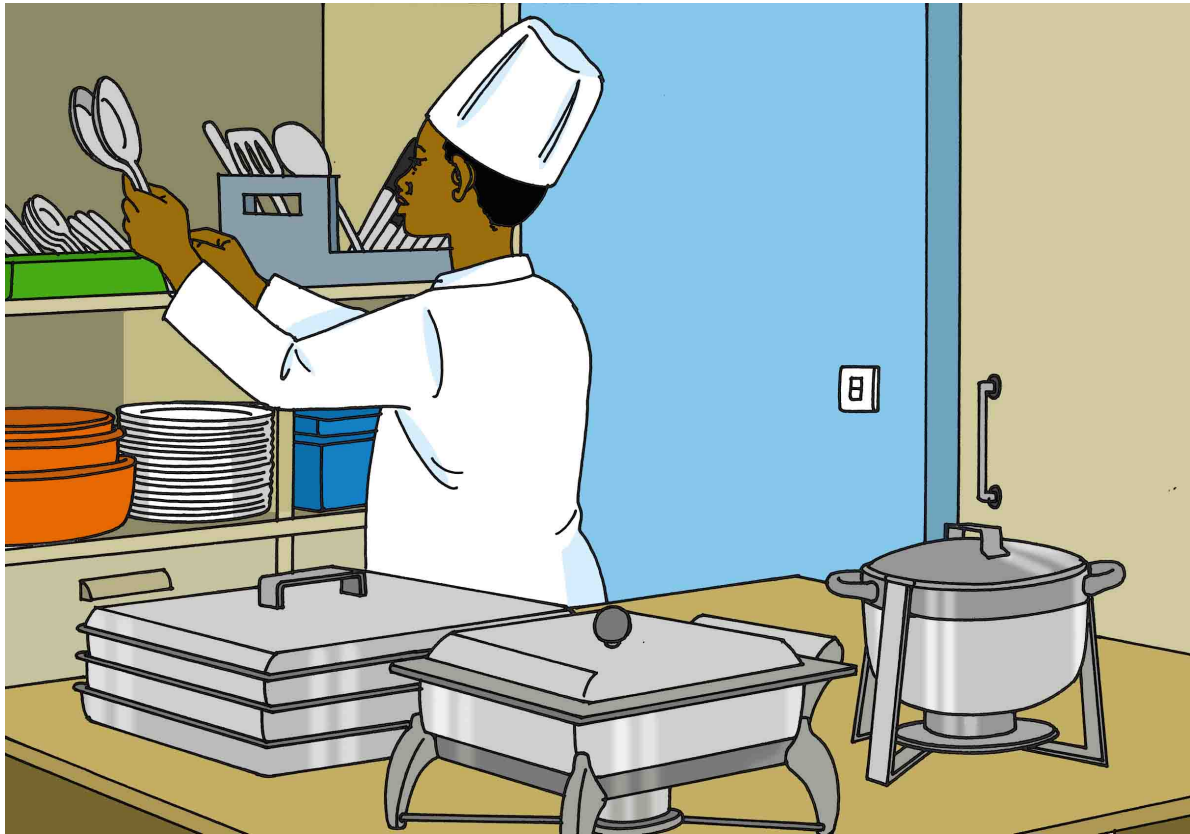


Figure 15: Selection of Buffet tools and equipment for mise en place

Activity 1: Discovery

” Magaju hotel manager is preparing to host a wedding ceremony. And they will use buffet on ceremony day, he requests you to select tools and equipment needed for buffet set up.



Activity 2: Problem Solving



Task: 2

1. Sit in group of 4-5 and discuss on situation written as follow:
2. Read the situation in discovery, answers to the following questions:
 - a. List all the tools that that you will need for buffet set up
 - b. Classify equipment needed for buffet set up

4. Take a time to trainees to brainstorm and discuss the questions in your respective groups.

Key Facts (Indicative contents)

❖ Classification of buffet tools

- Chafing dishes

✓ Chafing Dish Definition

Chafing dish is an apparatus consisting of a metal dish with a lamp or heating appliance beneath it, for cooking food or keeping it hot at the table. Chafing dishes are an essential addition to any food service establishment or engagement. They keep hot food hot and ensure food safety.

✓ Chafing dish usage

A chafing dish is used to keep food that is already cooked warm. Typically, these dishes will be arranged in a buffet line and customers will serve themselves directly from the dishes. You can find chafing dishes in many different types of foodservice settings, and they are commonly used at catered events, banquet halls, and hotels. Remember that chafing dishes are only used to keep food warm, and they cannot be used for cooking food.

Size Chafing dishes

A chafing dish is a multi-part system that keeps hot food hotter for longer than food stored in a traditional food pan. Chafing dishes come in a variety of sizes, shapes, and styles, and they can be used in many different foodservice settings. Chafing dishes come in three standard sizes: full size, half size, and 2/3 size.

Full size chafers hold between 8 to 9 quarts of food and are typically rectangular. They are the most common size of chafer and are primarily used for holding and serving entrees.

Half size chafers hold between 4 to 5 quarts of food and are typically square or rectangular. They are often used for holding and serving sides and desserts.

2/3 size chafers hold between 5 to 6 quarts of food and are typically either round or square. They are often used for holding and serving side items.

❖ **Types of Chafing Dishes**

With so many different types and styles of chafing dishes to choose from, it can be difficult to find the right option for your business. We broke down the different chafing dish types and what they're used for to make the process simple.

✓ **Rectangular Chafing Dish**

Rectangular chafing dishes are the most common chafing dish style and an essential addition to your catering supplies. They are typically full size chafing dishes, making them perfect for serving entrees in your buffet line. Primarily used for serving main dishes or large quantities of sides.

✓ **Round Chafing Dish**

Round chafing dishes provide a welcome break in appearance from the typical rectangular models and are great for holding main dishes, sides, sauces, and desserts. The round shape makes it easier to stir food as needed, making clean circular motions instead of taking extra time to scrape bits of leftovers from the side or corners of a food pan. Ideal for scoopable foods like eggs, casseroles, chilis, and dips.

✓ **Square Chafing Dish**

Square chafing dishes are commonly used for serving appetizers and sides, making them a nice complement to rectangular chafing dishes in your buffet line. They are compact, so they won't take up too much space on your table, and are easily portable to and from your event. Ideal for serving vegetables, grains, dips, and desserts.

✓ **Oval Chafing Dish**

The egg-shaped design of an oval chafing dish adds elegance to any serving table. Some oval chafing dishes are as large as rectangular chafers but can be used to enhance the visual interest of your presentation. Great for serving entrees, sides, and desserts

✓ Disposable Chafing Dish

Disposable chafing dishes feature all of the warming capabilities of standard chafers, but they have the added benefit of being disposable, so you can save time on cleanup by throwing them away after service. These chafing dishes are ideal for outdoor parties or casual events.

✓ Drop-In Chafing Dish

Drop-in chafers are permanently installed into countertops or tabletops. They have an upscale, streamlined presentation, and they're ideal for businesses like hotels that offer continental breakfast or buffets that are looking for a permanent chafing option.

✓ Coffee Chafer

Popular in hotels, buffets, and at catered events, coffee chafer urns are used to hold and dispense hot coffee and water for tea. These chafers are insulated to prevent heat loss, so your coffee or beverages stay hot for longer periods. They include a lid with a knob that is easy to remove for quick, simple refilling of your hot beverages. Great for serving hot beverages at outdoor or indoor events.

✓ Soup Chafer

A soup chafer, also known as a marmite chafer, is commonly used to keep soups, stews, sauces, and gravies warm throughout your service. It has a tall and narrow shape, which makes it easier to ladle out the contents, and a wide base to keep it stable on the table.

Can also be used to serve oatmeal, grits, and cooked grains.

✓ Chafer Griddle

Chafer griddles are ideal for cooking and serving a variety of foods, such as pancakes, french toast, meats, vegetables, and bacon, and will help streamline your operation as well as provide a memorable display cooking experience for guests. This type of chafer is open, so the smells and sounds of sizzling food will help entice customers.

✓ Induction Chafing Dish

Induction chafers are designed for use with induction cookers or warmers to heat the unit rather than utilizing a heated water pan, like other chafing dishes. Induction cooking only heats the chafer and there is no open flame, which eliminates the hazard of burns and fires. An induction chafer also provides best-in-class heat distribution with no hot or cold spots, and they allow you to maintain a specific temperature for longer periods than other chafing dishes.

✓ Electric Chafing Dish

Electric chafers are great for outdoor events as they are more reliable than chafing fuel in the event of windy or inclement weather. They're also ideal for indoor use when you don't want to deal with the hazards of open flames. Keep in mind that electric chafing dishes do require access to an electrical outlet, so plan accordingly when using them.

● Serving utensil

Serving utensils are small tools on a handle, used in preparing, serving, or eating food.

✓ The Soup Ladle

This utensil is curved or designed with a long stick handle and a large, cup-like spoon basin at the end. The handles sometimes have a curve or hook to make sure the ladle doesn't slip inside large pots while cooking or server.

✓ The Pasta Ladle

This utensil looks very much like other soup spoons except for two major differences an edge with teeth and a hole in the middle of the basin. The teeth allow you to grab pasta in hot water quickly and the hole permits the water to drain out. You end up with the pasta without the mess when pulling the food out of a boiling pot. It's ideal for serving pasta from the main cooking container.

✓ Tongs

This tool comes in either small or large size, with regular metal or covered ends. In any form, Tongs are great for grabbing food, particularly when hot. Tongs are a basic tool when BBQ'ing or working with flame, allowing the cook to flip food, move it around, place or remove it for

serving and doing all that activity without burning one's hands. Tongs also help avoid contamination by keep hands out of food in the cooking process. Consider them an extension of your fingers in the kitchen once the food is either cooking or being served.

- **Carving tools**

Carving Tool means any tools or instruments designed, or intended, to cut, carve big portion of meat for individual serving.

- ✓ **Carving knife**

A carving knife is a large knife (between 20 cm and 38 cm (8 and 15 inches)) that is used to slice thin cuts of meat, including poultry, roasts, hams, and other large cooked meats.

- ✓ **Carving Board**

Carving Board is a winner for carving and slicing needs. Cutting boards are great for preparing and slicing foods, but when it comes to carving and serving large cuts of poultry or red meat, you'll want a board that's made for the task and also one that's presentable for a dinner party or holiday setting.

- ✓ **Carving Forks**

Carving Forks are a common when slicing meats like poultry, roast, ham and stand up rotisserie. Carving forks are used to hold foods securely in place as well as keeping hands away from the sharp blades of the knives as food is being prepared. Longer tines will allow the fork to go deeper into the food so the larger pieces of meat can be kept stable as they are carved. A carving fork is still a very necessary tool, since it anchors the meat, making it easier and less messy to cut.

- ✓ **Classification of buffet equipment**

- **Food Dispenser**

Food dispensers are machines or containers designed so that you can get an item or quantity of something from it in an easy and convenient way. They usually hold mainly food, juices

which you or your customers can use to dispense portion-sized amounts of the food it contains, by turning a crank knob, or pulling a lever.

Food dispensing means the act of keeping, preparing or selling, offering for sale or distribution, for consumption on or off the premises, or in an enclosed or partially enclosed dining area adjacent to the enclosed food establishment, any articles of food and drink for human consumption.

There are two main types of food dispensers:

- 1) Automatic food dispensers
- 2) Manual food dispenser

An automatic food dispenser uses a sensor to release a set amount of food or drinks. This is great as it means that no physical contact is required to operate the unit. The manual option requires the user to use some sort of lever to access the food or drinks.

✓ **Juice dispenser**

Juice dispenser also called Iced Beverage Dispenser, Refrigerated Beverage Dispenser, Juice Dispenser Machine or Cold Drink Dispenser. It is used to dispense beverages hygienically and is widely used in hotels, restaurants, canteen, and bars. Since it is commonly used in buffets, it is usually categorized as buffet ware.

There are two main types:

- 1) Non-electric juice dispenser
- 2) Electric juice dispenser

It is mostly made of stainless steel with a polycarbonate container body. Below juice dispenser with stand is made of stainless steel. Sometimes you may find stand made of wood.

✓ **Carving Trolley**

It is used for carving Joints of meat of guest's table. The main function of carving trolley is to act as an aid to serving. The Carver also was known as the trancheur is responsible for the carving done at the buffet table and on the carving trolley.

● **Food warmers**

A food warmer is typically a table-top device used to maintain the serving temperature of prepared food. It is used both in homes and restaurants.

✓ **Bain Marie**

A bainmarie is used to keep food warm over longer periods of time. By providing a consistent gentle heat, it can hold pre-cooked food at the correct temperature and ensure it is ready to eat during an extended period of service. Sometimes known as a water bath or double boiler, a commercial bainmarie is usually a large appliance compatible with gastronorm pans. Hugely popular with buffets or self-service areas, gas or electric bainsmarie are available in a wide variety of sizes offering wet heat or dry heat options.

✓ **Soup Kettle**

A soup kettle is a practical alternative to a wet heat bainmarie if you need to keep larger quantities of a single item warm. As the name suggests, it is commonly used for soup but is also great for holding food such as chilli, curry or gravy.

✓ **Chafing Dish**

When there is no access to mains electricity or gas, a chafing dish is an excellent alternative. With similar functionality to a bainmarie, chafing dishes use cans of liquid or gel chafing fuel below the water pan to keep food warm.

Display equipment

Are devices or equipment that have an alphanumeric or graphic display screen used for exhibition of any goods or products, relevant promotion in purposes of marketing.

✓ **Food display refrigerator**

A food display refrigerator is a type of cooling unit used in restaurants that features an open-view facade for displaying foods.

✓ **Salad bar display**

There are many types of salad bar display. Salad Display Fridge are available to offer a salad buffet in catering establishments, It is salad display fridge which is also called a salad display counter. This type of salad equipment presents a large open top where the salad

buffet items are delivered in chilled drop-in pans. Deli cases are also available, which are used to keep meats, cheese, salads, and sandwiches.

✓ Carving Trolley

It is used for display and carving Joints of meat of guest's table. The main function of carving trolley is to act as an aid to selling display. The Carver also was known as the trancheur is responsible for the carving done at the buffet table and on the carving trolley.



Activity 3: Guided Practice



Task: 3

4. brainstorm on the (a) and present in the plenary session based on the following questions:
 - a. Select tools needed for buffet set up.
 - b. Classify buffet equipment basing on their use.



Activity 4: Application



Task: 4

In group of 3-4, in the Kitchen workshop observe carefully and execute the following tasks:

- a. Select the correct tools that they may need for buffet set up.
- b. Classify buffet equipment basing on their use.

The class comments on each group performance.

Topic 4.2: Alignment of Buffet Station



Figure 16: Aligning Buffet Station

Activity 1: Discovery

" Kigali Convention Center manager is preparing to host a summit. And they will use buffet, he requests you to align buffet station for Lunch.



Activity 1: Problem Solving



Task 1:

1. In your groups read the scenario in activity, discuss and answer the questions below:
 - a. buffet alignment procedures
 - b. buffet alignment guidelines
3. Present your work in a plenary session.

Key Facts (Indicative contents)

- **Definition of buffet alignment**

The foods are attractively aligned on the table and classified according to the proper sequence required for a good set up. Usually, this arrangement ranges from the appetizers to the desserts which are final serving.

- ❖ **Buffet alignment procedures**

For buffet alignment, arrange tables based on room layout and then start with plates, followed by side dishes, main dish, vegetables, salads, breads, and relishes. The utensils are placed at the end of the buffet. Table decorations are placed above and in center of buffet arrangement.

- ✓ **Buffet station positioning**

For buffet station positioning, plan the buffet room layout anticipating any possible difficult situation. Available space and room configuration, power, lighting structure, etc. Set buffet table setup and layout as table set-up and layout is critical in achieving a smooth operating buffet. You must consider the functionality of equipment/service utensils, arrangement of shapes, sizes, textures, colours, flavours and placement of food to make a profit. Buffet display should look lavish and plentiful.

Move your buffet table to a convenient location.

It needs to be visible, but not in people's way. If you have a lot of guests and your room is large, set the table away from any walls so that your guests have access to the table from both sides. If the room is smaller, place the table against a wall, out of the way. If possible, leave space for people to stand on either end of the table to avoid too much crowding in the front.

Positioning tables and chairs by considering the movements accordingly.

Here are 11 steps for buffet table settings in a hotel:

1. First of all, the Buffet table setup should be in a way that there is ample space for the customers to move around freely and to choose the dishes displayed.

2. It should be near the pickup and dish wash area so that replenishment and the clearing of dirty dishes can be done fast and effectively.
3. The number of customers to be set up is determined by the area available, time available for service, number of guests to be served, and category of dishes. The counters are divided into food, beverages, and water.
4. The buffet table should be covered up with a clean cloth and the edge of the table should be pinned with a long clean satin cloth of pleasing colors. If satin is not used, the fall of the cloth should be even all around the table.
5. Occasional tables and chairs are positioned leaving adequate space for the guests and service staff to move freely. These tables should be clothed with a well-laundered cloth.
6. The buffet tables in hotels should have the necessary serving tools like different crockery's, service gear, and serviettes neatly arranged.
7. The tea and coffee section of the buffet will have adequate cups and saucers with teaspoons arranged in two tiers. A basin or any container may be kept under the table to collect the drips of beverages.
8. The juice and soft drinks buffet will be equipped with an ice bucket, drinking straws, bottle openers, salvers, and any other dish to be served.
9. A separate counter near the wash or at convenient places should be set up required for service.
10. A separate counter near the wash or at convenient places should be set up to collect the soiled crockery and cutlery. The table must have a bowl to collect the food wastage and a tray for collecting dirty cutlery.
11. Keep trash cans in convenient positions for collecting used disposable. They should be lined with disposable bags. The floral centerpiece should be the focal point around which the

dishes of food would be placed. Cake stands may be used for presentation and display purposes.

❖ **Food dishes alignment**

1. Place plates at the beginning of the buffet line. If you are hosting a large crowd, consider having 2 or 3 stacks of plates. There should be no more than 10 plates per stack to avoid tipping.

2. Line up the food according to temperature. Start with cold foods like salad. Then offer hot foods like the main course and side dishes. Next comes bread and then dessert.

Arrange the food table strategically. Put most plentiful or cheapest types of food at the beginning; push the scarcest or most expensive to the end. I usually keep an eye on the food and within the first hour switch it up. At the wedding, for instance, people skipping over the veggie and hummus cups so they swapped with the meat.

3. Finish the table with utensils. A common mistake made by hosts is placing utensils at the start of the buffet. It can be difficult to juggle a fork, knife, spoon, napkin, and plate while serving. Placing them at the end prevents your guests from having to balance through the line.

❖ **Implementation of buffet alignment guidelines**

- **Buffet layout**

- ✓ **Sit down Buffet**

In this type of buffet, the tables are well laid out with the required cutlery and crockery. The food served in this buffet requires both fork and knife to be used at the table, as it usually consists of large pieces of meat. Guests pick up the food from the buffet line and return to the table for dining. Usually soups and rolls are served at the table. Once soup is consumed, guests are directed to the buffet counter to collect the main course. Meanwhile, waiters clear the soup bowl and keep the table ready for guests to consume the main course. In the same way, the main course is cleared and the table is kept ready when guests go to pick up the dessert.

course. These kinds of buffets are usually offered in state banquet parties and formal gatherings.

✓ **Fork Buffet**

It is generally a stand-up buffet where guests collect their cutlery and food from the buffet table. The dishes on the menu are planned in such a way that knife is not required to consume the food. Waiting staff would be available to fill the drinks or offer any other helps if required. Some occasional tables and chairs are made available usually for senior citizens and children. Fork buffets would be suitable for casual dining.

✓ **Finger Buffet**

This buffet offers light meal and snacks on the menu. The food is prepared in small bite-sized pieces so that it requires no cutlery to consume. Canapés, finger sandwiches, kebabs, tikka, and cocktail samosa are some of the examples which are not messy to handle with fingers. Guests pick up the food from the buffet with their hands along with a serviette and consume it on the move. Service staff would refill the food in the buffet, clear empty plates, and fill the drinks as and when required.

✓ **Cold Buffet**

A cold section of the buffet is called cold buffet. The temperature of the buffet should be maintained at 5°C. The cold section is displayed on a bed of ice, but in modern buffet restaurant, freezer wells or cold wells are most commonly seen. The choice of items available on a cold buffet ranges from salads, cold meats to fresh fruits. Cold buffet is most common in European countries and they are quite popular. The Scandinavian cold buffet (smorgasbord) is world famous for its selection. The foods are not decorated, but are simply laid out in the natural state. In fact, a smorgasbord is more of a home style cooking. The foods used are traditionally Scandinavian.

✓ **Cocktail Buffet**

A buffet may be served at any time of an afternoon or early evening. The food presented are small savory items such as canapés, dips etc. Items should be no longer than two mouthfuls

as guests are normally standing, drinking and talking while they are served. Coffee and small pastries may also be served at a cocktail buffet.

✓ **Breakfast Buffet**

A breakfast buffet is a popular feature in many hotels as an alternative to an a la carte breakfast service, and includes a wide variety of foods such as toast, croissant, sausages, eggs, stewed fruits, cereals, tea and coffee. The customer usually helps themselves, however a chef may be present at the buffet to prepare omelets and fried eggs etc to order.

✓ **Brunch Buffet**

The word brunch is derived from breakfast and lunch and is usually served from 10.00 – 14.00. There are two menus styles; breakfast and lunch- combined into one. This is for those people who skip their breakfast and want to have a heavy meal together, a combination of breakfast and lunch. The fundamental principle of brunch buffet is to have easily digestibly light, semi-solid food but in substantial quantity. The buffet brunch usually includes, fruits, soups, eggs, sausages, bacon, ham, quiche, cold seafood like shrimp and smoked fish, large roasts of meat and poultry, salads, vegetable dishes, many types of breadstuffs, and desserts of all varieties. Mimosa, bellini and bloody marry are popular brunch cocktail.

✓ **Theme Buffet**

A theme buffet can be any of the above types of buffets but is specifically planned and prepared using a theme for that particular occasion.

● **Buffet styling**

❖ **Theatre Style**

Originating in 16th-century France, buffet-style dining has stood the test of time and continues to be a popular choice for many restaurant customers.

✓ **Cafeteria Style**

Less prevalent in restaurants is the cafeteria-style buffet. In this type of restaurant buffet, customers select plates of food as they pass through a line. They might take a plate with a pre-made sandwich, a plate with a dessert, and a cup of soup, for example.

✓ **Special Occasions**

Many restaurants will offer a buffet as a restaurant promotion or for special occasions. For example, as a restaurant promotion, a restaurant might offer a special seafood buffet on the first Friday of every month. Or they might offer a special Mother's Day brunch buffet instead of a regular menu.

✓ **Catered**

Restaurants who offer catering services use buffets to feed large groups of people quickly and efficiently. Weddings, business meetings, and holiday parties are all ideal situations for a catered buffet. Restaurants can also provide catered buffets off site, expanding their business further.

✓ **Healthy Concepts**

Some restaurant chains are built around the perception of healthy buffet choices. Soup Plantation, for example, offers a "healthy all-you-can-eat" buffet. With an array of salad bars and soups and fresh produce available, the chain features 97 units in the U.S.



Activity 2: Guided Practice



Task: 2

Read, discussion and perform the following:

- a. Explain buffet alignment procedures
- b. Implement buffet alignment guidelines



Activity 3: Application



Task: 3

Brainstorm on the (a & b) and present in the plenary session on the following questions:

- a. Explain buffet alignment procedures
 - b. Implement buffet alignment guidelines
3. Each group present, and the class agree or disagree on each group performance.

Topic 4.3: Decoration of Buffet Station

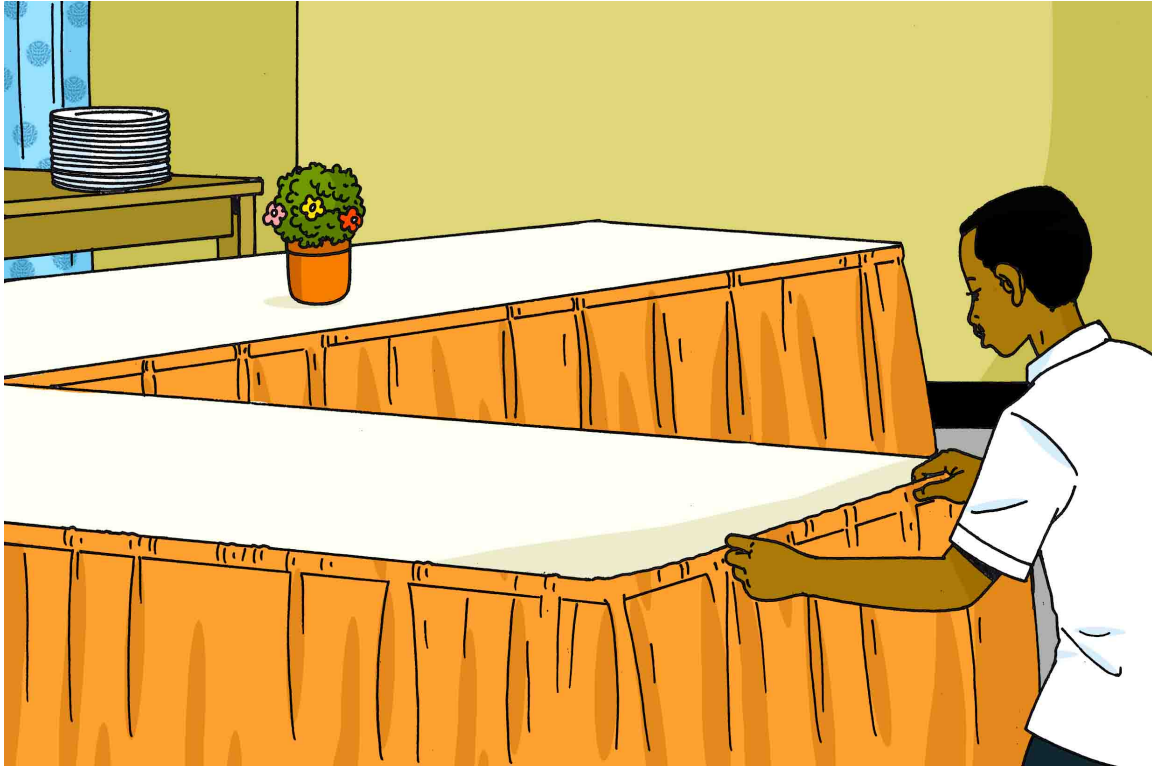


Figure 17:Decorating Buffet Station

Activity 1: Discovery

" Kwetu event organizers manager is preparing to host an event of 200 people who will take breakfast and lunch at premises. And they will use buffet, he requests you to decorate buffet station for both breakfast and Lunch with different Styling.



Activity 1: Problem Solving



Task 1:

1. In your groups read activity 1 and discuss on the follow questions:

- a. Explain the tips for buffet station implantation
- b. Discuss on how to applicate decoration techniques for buffet.

3. Take a time and brainstorm and discuss the questions in your respective groups.
4. Present your work in a plenary session.

Key Facts (Indicative contents)

- **Decoration of Buffet Station**

✓ Definition of buffet decoration

Setting up a buffet table requires planning for both convenience and appeal. In essence, your buffet is the centerpiece of your event, so you should put a lot of time and effort into making it engaging. By choosing a theme, getting a tasteful amount of decorations, creating a logical progression for your guests, and doing a trial run, you can ensure that your table will be decorated beautifully and conveniently for your event.

✓ Application of decoration techniques

Choose a color theme

Your table will be much more cohesive if there is a theme to your decorations. The theme can be either a color or an event, such as a birthday, a season, or a specific holiday. If the theme is a color instead of an event, limit yourself to 2-3 colors that go well together. If the theme is a holiday, choose colors that correspond with that holiday. For example, if it is a Christmas buffet, use decorations that are red, green, and gold.

Buy or make items related to your theme

Create a centerpiece that incorporates your theme using fruit, flowers, props, or candles. You can then choose items that hint at that theme for the rest of the table, such as edible garnish, flowers, fruit, leaves, or cinnamon sticks. Some other ideas for table decorations, depending on your theme, are ribbons or seashells.

Avoid overdoing the Decorations

You want the decorations to be classy, not gaudy or overwhelming. Ideally, the food will be on display and any décor around the table will enhance the look of the food, not hide it or

overwhelm it. Also, avoid sprinkling the table with glitter or other non-edible decorations, as these often end up on people's plates or in their mouths.

Prepare a label for each food item.

Make labels for each dish that you will have on the table. Use cardstock or paper folded in half, with the name of the dish written on one side. Write or type in a bold, clear font that is large enough for any guest to read.

Write whether a dish is vegetarian, vegan, or gluten free on the label, beneath the name of the dish.

Consider making a menu to display.

For an extra touch, you can create a menu of all the different foods that will be served. Display the menu either using a small menu easel on the table or a stand beside the beginning of the table. That way, guests will know what they will find further down the table and can make more informed food choices.

- **Linen decoration**

Coordinate decoration tablecloth

A table runner, napkins, and placemats. Choose either a tablecloth or a table runner to place beneath the food on the buffet table. Napkins are a must as well. Placemats are optional but can be a nice touch to have beneath your serving dishes. When choosing these items, be sure that they are within your color scheme and that they go well with one another. Consider oversized cloth napkins in colors that match your theme. For a more casual buffet, paper napkins are just fine. No matter what, supply plenty of spare napkins in case of a mess. Table runners should hang about 6 inches (15 cm) down the table on both sides.

Types of Reusable Table Covers and Skirting

Reusable table and chair linens offer a number of advantages over disposable options. Along with ensuring you'll always have covers on hand, reusable linens create less waste, reduce costs over time, and are often made of materials that convey a higher level of service and quality.

Cloth Table Covers

- Convey a higher level of service
- Absorb background noise
- Create sanitary tabletops
- Absorb spills better than bare surfaces
- Often machine washable
- Higher polyester content: more resistant to stains, wrinkling, pilling, and shrinking
- Higher cotton content: softer, more natural-looking, and more absorbent

Vinyl Table Covers

- Ideal for outdoor barbeques and casual catered events
- Strong, tear-resistant vinyl is more durable than disposable materials
- Often feature polyester flannel backings to protect tabletops and provide traction
- Make it easy to clean up spills and splatters
- Vinyl table cover rolls allow you to easily customize size
- Many feature a fun, gingham print

Spandex Table Covers

- Ideal for catered events, trade shows, receptions, and casino nights
- Stretch to snugly fit specific table sizes to eliminate wrinkling and the need for ironing
- Many features reinforced, sewn-in plastic feet to keep the cover firmly in place and protect it from damage
- Available in bold, eye-catching colors

Table Skirting

- Perfect for elegant displays at banquet halls, buffets, and event venues
- Polyester blends resist wrinkles and stains, making it easy to maintain their professional appearance
- Easy installation and removal for quick turnaround at busy venues

- Many are flame retardant, making them safer for use with lit candles or chafers fuel cans

Plan arrangement before placing the decorations on the table

This will prevent you from wasting time rearranging it. Decide which decorations you want to use, where they will go, and what direction you want the guests to follow.

Lay down tablecloth or table runner

Either of these will create a lovely base for the buffet table and can mask a table that you may not want to be shown. If you use a table runner, position it in the center of the table and make sure that it runs the full length of the table.

Arrange your themed decorations.

Now that your dishes are placed, go ahead, and fill in the spaces with the decorations that you've chosen. Be mindful of not placing items in front of food dishes, or in areas where they will get knocked over by elbows. Try placing larger items at the back of the table, and smaller items between dishes and around the edges of the table.

- **Food flowers**

Food flowers are lovely ingredient used as flowers in buffet set up as garnish on a food plate or dessert at a restaurant as it sets off the plate with the colorful esthetics of the stunning and radiant petals. Here are some examples:

1 Morning Toast

Grab your choice of bread & spread your favorite cream cheese combination. Some we love using are dill or honey and whipping it into the cream cheese. Top it off with edible flowers! Delicious and light! Add an egg on top to add your protein!

2. Shortbread Cookies

Talk about a cookie perfect for tea! There are many cookie recipes online using flowers but the shortbread cookies stand out the best! The icing covering the cookies make a perfect glaze to set the flowers on!

3. Honey Candied Suckers

Okay, there is 2 things you could totally do here. Suck on these especially when you have a dry and itchy throat or dip it into your tea and let the candied honey dissolve right into to your tea to sweeten to your taste! The flowers are set into the molds when poured to make this treat stunning!

4. Edible Ice Cubes

We know this is not a food or really even a drink but it makes even just plain water look amazing! Try adding lemon to add another flavor into the ice cube! Super easy and dramatic to any drink!

5. Spring & Summer Salads

If this doesn't say perfect starter course, I don't know what will! Adding edible flowers to the salad not only adds color but the floral flavors really do add to it especially when using the right dressings!

6. Creamy Soups

The second course of a dinner should be just as pretty as that salad! A creamy soup topped with flowers will make this look like a piece of art! Sprinkle the soup with sweet balsamic or pesto.

7. Cocktails

There are so many garnishes to use in drinks but there is something about using herbs and flowers in cocktails that not only add an aroma but adds flavor. Try adding mint or basil with the flowers!

8. Granola

Fruits into your granola isn't the only thing you should be adding! You could add lavender, sunflowers, or honeysuckles to layer in another flavor! [Blueberry Lavender Honey Oat Recipe](#)

9. Spring Rolls

Don't rule out having an amazing starter to wow your guests at the dinner table. Usually you will see cabbage, carrots and other veggies stuffed into the clear wraps, however using colorful flowers will make these stand out!

10. Cakes

A cupcake tower in wedding or baby colors is effectively charming for adding height to your buffet. Icing doesn't have to be the only thing decorating your cake. This option is a stunning way to add color without the dyes.

✓ **Implantation of decoration tips for buffet station.**

- **Styling**

- ✓ **Aim for symmetry**

To help your buffet table appear well-organized, your decorations should be relatively symmetrical on either side. This will give your table a great, balanced look. Try to imagine a line splitting the buffet table in half and try to create a mirror image on either side of the line.

For example, if you have a candlestick about six inches tall on one end of the buffet, try to place an item about as tall on the other end. You could have a candlestick on one end and a plant on the other.

You could try having a pattern in regard to the height and shape of objects. Towards the middle of the buffet, place shorter objects. Have the objects get bigger as you move outward.

- ✓ **Group items by type**

This can give your buffet an organized feel. You don't necessarily have to group the exact same objects together. However, you can group objects of similar colors and shapes together.

For example, try grouping together items of a similar color and height. A crimson book can be paired next to a short red figurine, for example.

Pair items by shape. You can, for example, have a tall, slender plant paired next to two long candlesticks.

You can also pair the same types of items. One section of your buffet can contain candles and candle holders while the other can contain antique books you're using as decoration.

✓ **Go for a particular color scheme**

You should not have all the items on your buffet match perfectly in terms of color. This can be a bit much and may be overwhelming to look at. However, a general color scheme, especially one that goes with the room, can really help your buffet look well organized.

For example, for a room with a warmer color scheme, go for a warm color palate. Stock your buffet with oranges, reds, yellows, and other similar colors.

You can also look to other decorations for ideas about color. Maybe you have a painting that uses a lot of gold and yellow colors hung on the wall just to the right of your buffet. Think about using yellow colors to decorate your buffet.

✓ **Opt for a less is more approach**

You don't need your buffet to contain every decorative item in your home. In fact, this can easily be overwhelming. Opt for a less is more approach when it comes to decorating your buffet. Challenge yourself to choose only the best items and those that work with your decoration scheme.

For example, you may have accrued a lot of figurines over the years. However, you can't put them all on the buffet. Think about which figurines are the nicest and would work best with other decorations.

You may, say, be doing a green color scheme. Choose figurines that have some green in them and select the ones you like best. Think about other aspects, like height and shape, to keep the buffet symmetrical as you select the right items.

✓ **Add plants**

Plants can be a great addition to a buffet table. If you're unsure how to decorate your buffet, try throwing in a few plants or flowers. This can make the room feel fresher as well, and may add a nice fragrance.

If your buffet is near a window, it can be very easy to use a plant or flower to decorate. The plants will be close to a source of natural sunlight.

If the buffet or the room smells a little musty, a fragrant flower can freshen things up.

If you have pets, like cats, that may eat plants or flowers, you can also try plastic flowers or plants.

✓ **Place decorative knick-knacks on your buffet**

If you have a lot of knick-knacks hanging around, your buffet can be a great place for some of them. Many people receive small decorative items for holidays and birthdays. If you have something like a fancy paperweight or tiny sculpture in storage, try placing on your buffet as decoration.

Use discretion when selecting your knick-knacks. You certainly should not put every knick-knack you own on your buffet, as this can make it look crowded. Instead, opt to include your nicest knick-knacks that best match the scheme you're going for.

For example, say you're going for a pastel color scheme. You should not display a miniature sculpture painted in bright, primary colors. However, a decorative woodblock painted in a soft shade of purple can be a nice touch.

✓ **Hang up art on the wall behind the buffet**

If you have artwork that does not have a place, hang it up behind your buffet. If you stocked your buffet with a lot of shorter objects, the wall behind it may need filling. Try hanging up some artwork just behind your buffet.

Hang the artwork so it's a little above any items on the buffet. You don't want the artwork to be hidden. Strive to hang a painting at least a few inches above any items on the buffet.

Choose artwork that matches the color scheme of your room and your buffet. If you're going for a bright primary color scheme, a pastel impressionist painting may not work. However, an abstract painting that uses pastels will match great with your buffet table.

✓ **Hang a mirror behind the buffet**

A mirror can be an attractive addition to the wall behind the buffet. It can also help if you want to double the buffet as a vanity area in your home. You can stand before the buffet to do your hair and makeup.

As with hanging paintings, try to hang the mirror at least a few inches above any decorations on the buffet.

If you want to use the buffet as a vanity, the mirror may look best in the center of the buffet table. This way, things like makeup and hairbrushes can be placed on either side of the mirror for your use.

✓ **Use the space behind the buffet for photographs.**

If you don't want to put photos directly on the buffet, you can hang them up on the wall behind it. This can work if you have children or animals that may knock breakable frames off of the buffet table.

As you decide where to hang the photos on the wall, strive for balance just like you would with items on the buffet table. Imagine a line going down the wall in the middle of the buffet. Now imagine a mirror image pattern on either side of the line with photographs and pictures, selecting similar sizes and shapes for frames and photos on either side of the wall. The photos don't need to form a perfectly symmetrical pattern, though; balancing sizes and shapes is more important.

Make sure any photos you hang up are a few inches above any decorations on the buffet.

- **Lighting**

- ✓ **Set out candles**

Candles are a wonderful decoration for any buffet table. Consider placing tall candles at the back of the table if the table is against the wall, so that they will not get knocked over.

Place candles in decorative holders. You can purchase decorative candle holders at antique shops, craft fairs, and other places. Attractive candles and candle holders can really brighten up a buffet. Otherwise, you can decorate small jars with candles inside and place them around the table. If having flames seems dangerous for your event, consider using flickering electric candles.

- ✓ **Buffet lamps**

Buffet lamps, also called candlestick or console lamps, are tall light fixtures that provide a pleasant ambiance in any buffet table or room. The lamp base, which is long and thin, may reach anywhere from 32 to 36 inches in height.

If you are working on lighting the dining room, make space on a sideboard for lamps. This will not only allow you to create soft pools of low light so welcome in a dining room but will also illuminate your sideboard decor ideas.



Activity 2: Guided Practice



Task: 2

In kitchen workshop, perform the following:

- Implant buffet station based on buffet station implantation procedures
- Apply decoration techniques for buffet



Activity 3: Application



Task: 3

1 With buffet decoration tools and equipment, flours and linens perform the following activities:

- a. Implant and decorate a buffet station based on buffet station implantation and decoration procedures

2. Each student will implant and decorate a buffet station, and the class will agree or disagree on each student's performance.



Formative Assessment

True or False Questions

1. Based on classification of buffet tools, a chafing dish is used to keep food that is already cooked warm. And these dishes will be arranged in a buffet line and customers will serve themselves directly from the dishes.

True

False

Answer:

2. For Buffet alignment, tables are arranged based on room layout and then start with plates, followed by side dishes, main dish, vegetables, salads, breads, and relishes. The utensils are placed at the end of the buffet. Table decorations are placed above and in center of buffet arrangement.

True

False

Answer:.....

3. Food flowers are lovely ingredient used as flowers in buffet set up as garnish on a food plate or dessert at a restaurant as it sets off the plate with the colorful esthetics of the stunning and radiant petals?

True

False

Answer:.....

Open Ended Questions

1. State 3 Linens mostly used of buffet decoration?

Answer:.....
.....
.....

2. What are Buffet decoration procedure to follow when setting up a buffet in a hotel?

Answer:.....
.....
.....

3. State 10 Food flowers mostly used for buffet decoration.

Answer:.....
.....
.....

4. Describe 3 buffet tools and equipment based on their use and give out an example for each?

Answer:.....
.....
.....

Multiple choice questions

1. Which one of the following is not used for decoration of buffet station

- a. Tablecloth
- b. Vinyl Table Covers
- c. Spandex Table Covers
- d. Plates
- e. Table Skirting
- f. Food flowers

Answer:.....

2. What types of chafing dishes among the following are commonly used for serving appetizers and sides, making them a nice complement to rectangular chafing dishes in buffet line?

- a. Rectangular Chafing Dish
- b. Round Chafing Dish
- c. Square Chafing Dish
- d. Oval Chafing Dish
- e. Disposable Chafing Dish
- f. Drop-In Chafing Dish
- g. Induction Chafing Dish
- h. Electric Chafing Dish

Answer:.....



Points to Remember

For buffet set up, always remember to set your plate at the beginning of the buffet line so that people do not need to go around the room searching for the plates and utensils.

Plates should be at the start of the table, cutlery & napkins in the end.

As one of the most fundamental, yet important top to set up a buffet line, this allows your guest to have their hands available and free to hold their plates and take their food safely without the risk of spilling and dropping.

You should also consider the positioning of your food items. Dishes earlier in the line will be finished earlier, and the food items later down in the buffet line will last longer.

Make space for a centerpiece decoration it's an excellent way to set the theme and feel of your mini gathering. Hence, attractive decorations can make or break your party, and the center of buffet table is often the best place for this.

Separate drinks from food, drinks at a separate station from the food table at buffets.

Drinks also often make its surrounding items wet as they are often chilled and will not be great to be in proximity with hot and fresh food.

You should also regularly clean your drink stations as they are notorious for spills and mess! Keeping that area clean by consistently wiping it down will make a major difference.

Remember to provide ample food disposal bins and trash cans. Be sure to use leak-proof bins or bags to contain the mess. And these bins should be far away from the food but close enough for guests to spot and utilize.



At the end of every unit trainees should:

- 1) Re-take the self assessment they did at the beginning of the unit.
- 2) Fill in the table above and share results with the trainer for further guidance.

Areas of strength	Areas for improvement	Actions to be taken to improve
1.	1.	1.
2.	2.	2.

UNIT 5: STORE FOOD, TOOLS AND EQUIPMENT



Figure 18: Storing food, tools and equipment

Unit summary:

This unit described the knowledge, skills and attitudes needed to classify buffet tools, equipment and perform buffet alignment and decoration.

Self-Assessment: Unit 1

1. Look at the illustration. What is happening? What do you think this learning outcome will be about?

2. Fill in the self assessment below.

There are no right or wrong ways to answer this survey. It is for your own use during this course. Think about yourself: do you think you can do this? How well? Read the statements across the top. Put a check in column that best represents your situation. At the end of this learning outcome, we'll take this survey again.

My experience	I don't have any experience doing this.	I know a little about this.	I have some experience doing this.	I have a lot of experience with this.	I am confident in my ability to do this.
Knowledge, skills and attitudes					
Define Kitchen storing tools.					
Explain the use of Kitchen storing equipment.					
Identify 5 importance of storing food commodities					
Select the 4 main kitchen storing tools and equipment mostly used.					
Describe the procedures for storing kitchen tools and equipment.					

My experience	I don't have any experience doing this.	I know a little about this.	I have some experience doing this.	I have a lot of experience with this.	I am confident in my ability to do this.
Knowledge, skills and attitudes					
Describe storage conditions for food commodities.					
List down equipment used for storing kitchen tools and equipment					
Explain storage techniques for food commodities.					
Clean kitchen storing tools and equipment					
Store food commodities based on storage conditions.					

Table 25:Self-Assessment: Unit 5

Key Competencies:

Knowledge	Skills	Attitudes
4. Identify storing tools and equipment	4. Select kitchen storing tools and equipment	4. kitchen storing tools and equipment are handled with care
5. Identify the appropriate use of kitchen storing tools and equipment	5. Select the right way to use kitchen storing tools and equipment.	5. kitchen storing tools and equipment are used properly
6. Explain the cleaning procedure for storing tools and equipment.	6. Use kitchen storing tools and equipment securely	6. Kitchen storing tools and equipment are stored safely.

Table 26:Key Competencies: Unit 5



Discovery activity



Task:1.

Discuss the following questions with your partner (pair):

1. What does kitchen storing equipment mean?
2. Explain the use of Kitchen storing equipment?
3. Identify 5 importance of storing food commodities?
4. Describe the procedures for storing kitchen tools and equipment?
5. Explain storage techniques for food commodities?

Discuss with your pair all the questions (1., 2., 5)

Share your findings on the questions (3,4) with the rest of the class. Compare and discuss your ideas.

Topic 5.1: Select storing tools and equipment



Figure 19: Selecting storing tools, Source: <https://www.amazon.com/Vremi-Silicone-Storage-Containers-Airtight/dp/B071JVT2HC>



Figure 20: Selecting storing equipment, Source: <https://www.indiamart.com/proddetail/stainless-steel-kitchen-rack-13777274630.html>

Activity 1: Discovery

Gakwaya is a businessman, he would like to purchase kitchen storing tools and equipment for his new hotel set up. So, he requests you to help purchasing storing tools and equipment for his kitchen set up.



Activity 2: Problem Solving

5. In group of 5 discuss on the following situation:
 - c. List 10 kitchen storing tools that you will advise Gakwaya to purchase for his kitchen set up
 - d. List 5 kitchen storing equipment that Gakwaya must purchase for his kitchen set up
6. Take a time to brainstorm and discuss the questions in your respective groups.
7. Present your work in a plenary session.



Task

Key Facts (Indicative contents)

- Identification of kitchen tools
 - Selection of storing tools and equipment
- Kitchen storing tools
 - ✓ Knife Storage

Here are several different kitchen knife storage options that you can choose from to keep your knives sharp and clean when you're not using them. Here are six of the most common knife storage solutions:

1. **Edge guards:** Using individual edge guards which are plastic sheaths that go over the blades of your knives is a great way to store your knives in the cutlery drawer while preventing injury. Edge guards also prevent your blades from dulling.

2. **Knife blocks:** A knife block is a wooden block with individual slots carved into it for different knife types. A universal knife block will typically include slots to fit a paring knife, steak knife, sharpening rods, bread knife, chef's knife, a meat cleaver, and kitchen shears. This countertop storage option is typically made of wood, but there are also glass knife blocks and options with rubber or plastic rods that you can use to sharpen your kitchen tools.
3. **Drawer knife blocks:** Drawer knife blocks or knife bars fit into your kitchen drawers, with individual slots for your knife blades. Knife organizer drawer inserts are great for keeping your knives organized, protected, and out of sight.
4. **Leather knife rolls:** Leather knife rolls is a storage accessory made from leather, featuring slots to fit various knife sizes. A leather knife roll protects the blades of your kitchen knives and easily rolls up for drawer storage. It is a popular choice for professional chefs to store and transport their knife sets to work.
5. **Magnetic knife strip:** A magnetic knife holder is a practical option for saving counter space in your kitchen. These strips mount on your wall to provide your set of knives with a magnetic surface to which they can stick. Install magnetic strips on the wall above your kitchen workspace, and your knives will hold against the wall in a flat row.
6. **Magnetic knife blocks:** This storage option is similar to a standard knife block but does not feature slots. The knives stick to the sides of the magnetized block, meaning the cutting edges are less likely to get damaged moving in and out of knife slots.

✓ **Drawers with pegged Compartments**

Keep utensils organized and in place by installing wooden pegs within your deep kitchen drawers. Pegs allow you to section off certain utensils and prevent them from sliding around when the drawer opens and closes.

✓ **Drawer Knife Block**

This drawer is outfitted with a wood knife block, which keeps knives organized, visible, and safely stored. The two-level insert provides space for all sizes, from small paring knives to large butcher knives.

✓ **Wall Storage Hang It Up**

Keep cooking utensils within reach by adding a stainless-steel bar above the stove top. Over-the-range storage frees up space throughout the kitchen and keeps frequently used utensils easily accessible. A hanging metal ledge also provides space for small utensils, like measuring spoons.

✓ **Inset Utensil Storage**

Inset storage bins on the kitchen countertop are a quick, convenient way to store kitchen utensils. Commonly used as food storage, these small, discrete storage units are perfect for holding everyday utensils.

● **Kitchen storing equipment**

✓ **Refrigerated Storage**

A refrigerated storage is a storage space planned and maintained at a temperature between 0oC and 4oC. It can be in the form of a complete room (walk in cooler) or a cabinet which is free standing or fixed in the wall. Refrigerator storage is used for storing raw and cooked food. Care should be taken that there are no leakages from the containers in which these items are placed. Some common types of refrigerators include walk-in coolers, reach-in fridges, pass-through options, or prep fridges. It is likely that your restaurant will require a combination of different types.

Uses of Refrigerator

- ✓ They are used for preserving raw food
- ✓ They are used for preserving cooked food items and other materials that are easily perishable

✓ **Shelving**

Shelving used for storing different foods. You can also use shelving for storing pots, pans, dinnerware, dry ingredients, and more. Shelving comes in a variety of sizes and configurations, allowing you to customize your shelving for your space.

✓ Bussing and Utility Carts

Bussing and utility carts are essential to have in the kitchen due to their utility. You can use them in the front-of-house area for bussing tables or in the back-of-house area for moving heavy equipment or ingredients.

✓ Sheet Pan Racks

Sheet pan racks are designed for storing and transporting foods, but you can also use them for holding and proofing breads. Sheet pan racks are designed to be tall rather than wide, so they have a small footprint, which is ideal for cramped kitchens.

✓ Food Storage Containers

Food storage containers are the perfect multi-purpose tools. You can use them to store prepped ingredients, mix up sauces and stocks, or hold dry items like pasta or rice. Best of all, many food storage containers come with colored lids or markings, so you can color code them for easy organization.

✓ Drying Racks

Drying racks provide a place to not only store your equipment, but to also air dry it. You can use drying racks for drying dinnerware, glassware, cookware, cutting boards, utensils, and much more.



Activity 3: Guided Practice



Task:

You brainstorm on the (a and b) and you present in the plenary session.

As you have already read the scenario in task 1, discuss the following questions:

- a. List 10 kitchen storing tools that that you will advise Gakwaya to purchase for his kitchen set up
- b. List 5 kitchen storing equipment that Gakwaya must purchase for his kitchen set up



Activity 4: Application

Topic 5.1

In the kitchen workshop perform the following activities:

- a. Select 10 kitchen storing tools
- b. Select 5 kitchen storing equipment

Topic 5.2: Apply storing procedures for kitchen tools and equipment



Figure 21:Applyingstoringprocedures for kitchen tools and equipment

Activity 1: Discovery

Higiro is the owner of Legend hotel, and he purchased expensive kitchen tools and equipment for his modern kitchen. Therefore, his is requesting you to wash them before storing in storeroom.



Activity 1:Problem Solving

1. Create groups of 3-4 and discuss on situation written as follow:
2. Read the situation in task 1 and brainstorm to the following questions:
 - a. What are cleaning procedures will you apply for kitchen tools and equipment.

- b. Apply basic maintenance procedures for kitchen tools and equipment before storing them in storage cabinet for maintaining their shelf life and easy identification.

3. Take time to brainstorm and discuss the questions in your respective groups.

4. Present your work in a plenary session.



Task

Key Facts (Indicative contents)

- **Application of storing procedures for kitchen tools and equipment**

- ❖ **Cleaning**

The Wash-up Area: Dishwashing has a high rate of importance because of its significance in sanitation and hygiene and has the following functions:

- a. Collecting dirty tools equipment from the restaurant, kitchen, or floors.
- b. Cleans dirty tools equipment coming from the restaurant, kitchen, or floors.
- c. Keep and maintaining clean tools and equipment.

The wash-up area consists of three parts, manned by the kitchen steward.

- 1. Loading – dirty equipment is pre-washed and loaded on baskets/trays for machine or hand washing.
- 2. Washing – consists of cleaning, rinsing and sanitizing.
- 3. Unloading – The clean equipment is kept on racks, picked by waiters or delivered by stewards.

Pre-rinsing calls for a water of warm temperature. 120° F will melt fat but not cook foods firmly onto the surfaces. The washing temperature must be 140° F hot enough for effective cleaning action. Sanitizing calls for a temperature of 180° F for 10 seconds. In small hotels, dishwashing is done manually, but the process is the same. Ideally, separate workers should

be provided for handling dirty and clean dishes. To ensure effective dishwashing water temperatures must be maintained, detergent concentration should be effective and correct handling procedures followed.

Cleaning procedures for kitchen tools and equipment will depend on the material made of as explained below:

✓ **Cleaning dishes and cooking utensils**

1. Remove detachable parts, such as blades, plastic or wooden handles and screens.
2. Wash dishes, pots, pans and utensils and detached parts in hot, soapy water. Use a brush, if necessary.
3. Rinse in clear water after washing.
4. Place items in a wire basket or other container and immerse them in a sanitizing solution. The sanitizing solution is prepared by mixing 1 tablespoon unscented chlorine bleach in 1 gallon of warm water.
5. Air-dry dishes in a clean and sanitized dish rack.
6. Remember to wash cupboards and other surfaces with soapy water, then rinse and wipe surfaces with a disinfecting solution before storing food, dishes, and cooking utensils in them.

✓ **Cleaning rust on iron pots, pans and utensils**

1. Wash with soap and water, using a stiff brush, scouring power or steel wool.
2. Wash again in hot, soapy water, rinse and dry thoroughly.
3. Season iron pans and utensils with a generous amount of unsalted cooking oil. Heat in a 250 degrees Fahrenheit oven for 2 to 3 hours. When seasoning is completed, wipe off excess oil.

✓ **Cleaning stainless steel, nickel-copper alloy, nickel or chrome-plated metals**

1. Wash thoroughly and polish with a fine-powdered cleanser.
2. Wash and dry the surface.

✓ **Cleaning aluminum pans and utensils**

1. Wash thoroughly with hot soapy water. Scour any unpolished surfaces with soapy steel wool pads (do not use steel wool on plated aluminum finishes).

2. Sanitize in 1 tablespoon unscented chlorine bleach per gallon of warm, not hot water.
3. To remove dark stains from aluminum pans, fill pan with water. Add 1 tablespoon vinegar or 2 teaspoons cream of tartar for each quart of water. Boil for 10 to 15 minutes, scour with steel wool, wash with soap, rinse and dry.

✓ **Cleaning copper and brass utensils**

1. Polish with copper or brass polish or rub with a cloth saturated with vinegar or rub with a piece of salted lemon.
2. Always wash copper with soapy water after using acids or commercial polishes.
3. Do not use copper and brass items for food preparation or service.

✓ **Cleaning Pewter**

1. Wash with hot soapy water, rinse and dry. Use a soft toothbrush to get into crevices.
2. Rub with silver polish (paste or liquid, not dip type) with a soft cloth.
3. Rinse in hot soapy water and dry.
4. Do not use pewter items for food preparation or service.

✓ **Cooking Equipment: (Hot plates, gas stoves or ranges)**

Wipe the top daily while still warm, using wet cloth or sponge.

Any foods spilled and burnt while cooking may require the use of mild detergent or scouring pad. For open burners, a weekly boil in warm soapy water will help remove any food particles that may have been the cause of blockade leading.

Wipe dry with slightly oiled cloth.

✓ **Ovens**

Oven cleaning shouldn't have to involve excessive physical effort with help from powerful commercial cleaning supplies and some handy cleaning tips. Once your oven starts to smoke, it's an indication that it requires a good clean. Always use an approved cleaning solution and be sure to follow company procedures. It's also important to use gloves for this task to protect your skin from the cleaning chemicals, and to follow any safety precautions as set out by your company and the oven manufacturer.

Oven cleaning products will help speed up the process and break down the tougher, baked-on stains. After using a powerful oven cleaner, it requires far less effort to finish the cleaning task and get your oven back to its brilliant best.

- The first thing to do is to allow good ventilation via an open window or ensure your extractor fan is switched on. Use paper towels to cover the floor area just underneath the oven door. Once you begin to apply cleaning solutions, the liquid can easily drip down onto the floor and create more mess.
- Remove your oven shelves as these can be cleaned separately. Soak the shelves in a basin filled with warm water and industrial strength washing up liquid. This will be enough to loosen any dirt so you can clean your shelves thoroughly.
- Inside the oven, loosen any residue and tough stains with a blunt implement such as a spoon. This helps any chemical cleaning formulas to work more effectively and produce the best results. Now you can apply your chosen cleaning formula, taking care not to spray the heating elements or the fan. You may find it easier to apply the formula into the corners by using a paintbrush as an applicator, to ensure each area has substantial cover.
- Leave the formula to work for as long as possible, preferably overnight. (Always follow the instructions on the container, which may suggest leaving the solution for a shorter period). Use a hard-wearing scrubbing sponge, or a dishwasher brush to bring out all the dirt and grease. Finally, use a microfibre cloth to wipe the appliance clean of any residue. These cloths don't leave any fibres behind which can burn in the oven when it is next used. Reassemble the oven shelves once they are clean.

✓ Refrigerators

Before you begin, check any company procedures in place which must take priority.

- Once your fridge has been emptied, check for any spillages or debris which can be removed with a non-abrasive sponge
- Remove any shelves or drawers which can be cleaned in a wash basin full of warm, soapy water. Rinse these off and allow them to air dry

- Spray every part of the fridge with a multi-purpose cleaner. Wipe down the walls, seams, and door seals for best results. Wipe away the remaining solution with a non-abrasive sponge for a spotless fridge
- If you turned off the fridge to save power, now's the time to turn it on again. Clean the exterior with a damp cloth.
- Clean and disinfect a fridge door handle using disinfectant or antibacterial wipes and allow to air dry.

✓ **Clean Sink**

Though it may not seem obvious to the naked eye, a kitchen sink can soon become a hotbed of germs as it is constantly exposed to dirt and kitchen waste, so it benefits massively from regular cleaning.

- Sinks can be thoroughly sanitised by using commercial cleaning supplies such as a dual purpose cleaner and disinfectant
- Heavy grease and oil can easily clog sinks in kitchens, and so it is now a requirement for catering companies to keep these deposits under control. Keeping your drains and piping hygienically clean and smelling neutral aren't the only benefits from using suitable grease-fighting equipment. The beneficial bacteria contained within each dose continue to improve water quality downstream, helping to break down waste more effectively and keep the pipe works running efficiently.

✓ **Clean Dishwasher**

To provide thorough sanitation, dishwashers must reach a temperature of 82.2 degrees Celsius. Always separate equipment in the dishwasher unless you're able to provide adequate heat. It's also a good idea to pre-wash dishes, cutlery and similar utensils before placing them in the dishwasher. This helps to remove the tougher, 'baked-on' stains before they get a regular clean in the dishwasher. The other problem with leftover food on dishes is that this can clog your filter and strongly affect your dishwasher's performance, often resulting in 'cloudy' results on your tableware. If your tableware is still coming out of the dishwasher with visible marks and stains after the filter has been cleaned, then the dishwasher itself may need a clean.

- Hard water makes it difficult for your dishwasher to run effectively, but water softening salts can help you overcome this problem
- Use a multipurpose cleaner to thoroughly clean your dishwasher, including the door seals. Use a non-abrasive sponge to scrub all areas and wipe down with a damp cloth
- When your dishwasher finishes each load, leave the door open for 10-15 minutes to help reduce humidity and keep it clean inside

❖ **Basic maintenance**

Each piece of equipment, from the largest to the smallest, needs proper care and maintenance. Proper handling and care of the equipment will make the kitchen a safer place and increase their longevity, thus saving you money. Here are some top tips on how to maintain and care for the equipment in kitchen. Regular maintenance helps to reduce expensive repair costs while eliminating the dangers of having faulty appliances in your kitchen.

✓ **Read Manuals Carefully**

One of the best ways to take care of kitchen equipment is by using them for the right purpose, for which they are intended. Kitchen equipment usually comes with manuals and instructions of use. Ensure that you read and understand the manual before you start handling any piece of equipment. The manual also has clear instructions on how to assemble and clean the piece of equipment.

✓ **Cleaning Regularly**

Clean your kitchen equipment thoroughly after every use. Additionally, you can develop a cleaning schedule for the pieces of equipment you do not regularly use to ensure that they don't accumulate dust or mould. Cleaning kitchen tools and equipment after every use makes your kitchen work easy while ensuring that the equipment pieces do not rust.

✓ **Sharpen Knives Regularly**

Consider sharpening kitchen knives regularly. This practice not only helps to improve their efficiency but also makes them last longer. Develop a routine for sharpening your knives, either weekly or once per fortnight. You should also ensure that you do not use any harsh

sprays or cleansers while cleaning your knives as they make them dull and blunt. Instead, use hot water and natural soap to clean your knives.

✓ **Refrigeration Equipment**

- Check the air filters in coolers, refrigerators, and ice machines. Remove any debris with a shop vac.
- Repair any tears or cracks around the door gaskets. Clean the gaskets as well as any moving parts.
- Clean the drain pans and tubes of any slime or sludge.

✓ **Fryers**

- Check for gas leaks every four to six weeks.
- Clean combustion fans once a month.
- Boil out the fryer weekly.

✓ **Grills, Griddles, and Ranges**

- Clean burners, flattops, grease traps, and grates after every use.
- Clean exhaust unit grease filters and replace any that are damaged or have excessive grease built up on them.

❖ **Process for oiling kitchen machines/equipment**

As you are cleaning kitchen equipment, it is important that you also lubricate the motors and moving parts with food-grade lubrication. Conventional lubrication is not sanitary enough to use on kitchen equipment that is used to process and prepare food.

Proper lubrication will reduce friction between moving parts. This will work to prevent overheating of the machinery. Remember to never apply any more lubricant than necessary and always wipe off any excess immediately. Refer to the guidelines in your manufacturer's user manual for additional information.

✓ **Basic maintenance for Kitchen mixers**

Kitchen mixers have lots of gearing. Those gears require a lot of grease to keep things running smoothly. Over time, that grease breaks down and the oil will start to separate out and leak out of your mixer. It is food grade grease and poses no risk, but it can get messy and who wants their cookies tasting like grease. Luckily it is an easy fix.

Step 1: Remove Back Cover

First take off the back cover by removing the screw on top of the mixer. With the cover off, pull the power chord out of the slot.

Step 2: Remove Planetary

Next we remove the planetary. Use a screwdriver to pry off the drip ring. Careful. Depending on how bad your mixer is leaking, the ring may be full of oil. Then use a punch to drive the dowel pin out of the shaft. The planetary can then be gently pried off.

Step 3: Remove Housing

To remove the upper housing, first remove the five screws around the planetary gear. Then remove the four screws on the bottom of the housing. One of those screws will have a lock washer on it. Make a note of where it came from. With all nine screws removed, you can pry off the upper housing.

Step 4: Scrape Out Old Grease

Inside you will find a mess of old grease. Use something to scrape out as much as you can.

Step 5: Remove Gears

Once most of the grease is gone, you can pull out the gasket, center gear, hub gear, and shaft. Then separate the worm gear assembly by removing the three screws that hold it on.

Step 6: Clean Parts

Wipe all of the parts down with an old rag to remove as much grease as possible. Then soak and/or scrub in your favorite degreaser. I ran my parts through an ultrasonic cleaner in a heated bath of Simple Green. The upper housing was just sprayed down with Simple Green and wiped out because of the motor.

Step 7: Replace Gears

Now it's time to reassemble. The worm gear assembly can be replaced first. Then the shaft and center gear can be installed. Make sure to install the paper washers in the correct locations and replace the gasket.

Step 8: Grease

Pack everything in fresh grease. Try to add the same amount as you removed. Rotate the gears by hand to make sure the grease is distributed everywhere and things are moving smoothly. The hub gear can be greased and installed in the upper housing. Also pack grease around the motor gear in the upper housing. Add some grease to the planetary gear as well.

Step 9: Replace Housing

Place the upper housing on the mixer. Replace the four screws through the lower housing, making sure the screw with the lock washer goes in the correct location. Then replace the five screws around the planetary gear.

Step 10: Install Planetary

Slide the planetary over the shaft and replace the dowel pin to lock everything in place. You may need an awl to help line the holes up. With the planetary installed, move it by hand to make sure it rotates freely. Tap the drip ring back in place with a rubber mallet.

Step 11: Replace Back Cover

Slide the power chord back into place and install the back cover. Replace the screw that holds it in place.

Step 12: Final wipe

Give the exterior a final wipe down to get it nice and clean and you are done. Now your mixer is ready for the next culinary adventure.

❖ Labeling

The following step to organizing kitchen tools and equipment after cleaning and being kept in storage cabinets and drawers is to label them. There are a few ways to label. First, you can

put a label directly on the shelf. The labels from the P-Touch Brother label maker fit perfectly on most shelves. They can also fit on the inside lip of the drawer. The other way to label is to use label tape and write on there with a Sharpie oil-based paint marker. If you like your handwriting and prefer larger font labels, this would be your easiest option. Labels are important. They give guidance and keep things in their place.

❖ **Storing**

The order of storage for different types of kitchen tools is from right to left, the most frequently used ones are to the right, and the least to the left. Extra equipment is required to be stored in a separate place in a cupboard or in a box that can be locked. The cutlery or hollowware should not be wet.

Storing the kitchen utensils and equipment properly is as important as the time of selling. Poorly stored equipment means breakages and shorter periods of life. The food service staff should be given adequate training on the correct way of storing various equipment and kitchen utensils.

1. Crockery

Thoroughly washed and dried crockery should be stored in piles of 20 or 25 for easier counting. The pile should not be too high as this may lead to toppling and breakage. The piles should be kept covered and stored at convenient heights for easier access and to avoid breakage.

2. Glassware

Cleaned and polished glasses should be stored upside down in a cupboard or shelves lined with paper. Glasses should not be put inside the other as this will cause cracks and accidents for staff. Handle glasses by their base or stem to avoid fingerprints.

3. Linen

The linen of different sizes and colors should be neatly folded and stored together in linen racks or cupboards lined with paper. The inverted fold of linen should be facing outside for easier counting and picking up.

4. Cutlery and Holloware

The order of storage for different types of kitchen tools is from right to left, the most frequently used ones are to the right, and the least to the left. The cutlery or hollowware should not be wet.

5. Cleaning Materials

Extra equipment is required to be stored in a separate place in a cupboard or in a box that can be locked. A separate store is necessary for all cleaning materials because of its strong smell and also this will avoid chemical contamination.



Activity 2: Guided Practice



Task:

1. You brainstorm on the (a and b) and you present in the plenary session.

Discuss the following questions:

- a. How can you clean kitchen tools and equipment before storing them?
- b. State two major activities you should do before storing kitchen tools and equipment in storage cabinet for maintaining their shelf life.



Activity 3: Application



Task:

Trainees are guided to the workshop for observation.

Observe carefully and perform the following tasks:

- a. Clean kitchen tools and equipment before storing them?
- b. Store kitchen tools and equipment in storage cabinet basing on right storage procedures

Each group is requested to present.

The class comments on each group performance.

Topic 5.3: Store food commodities

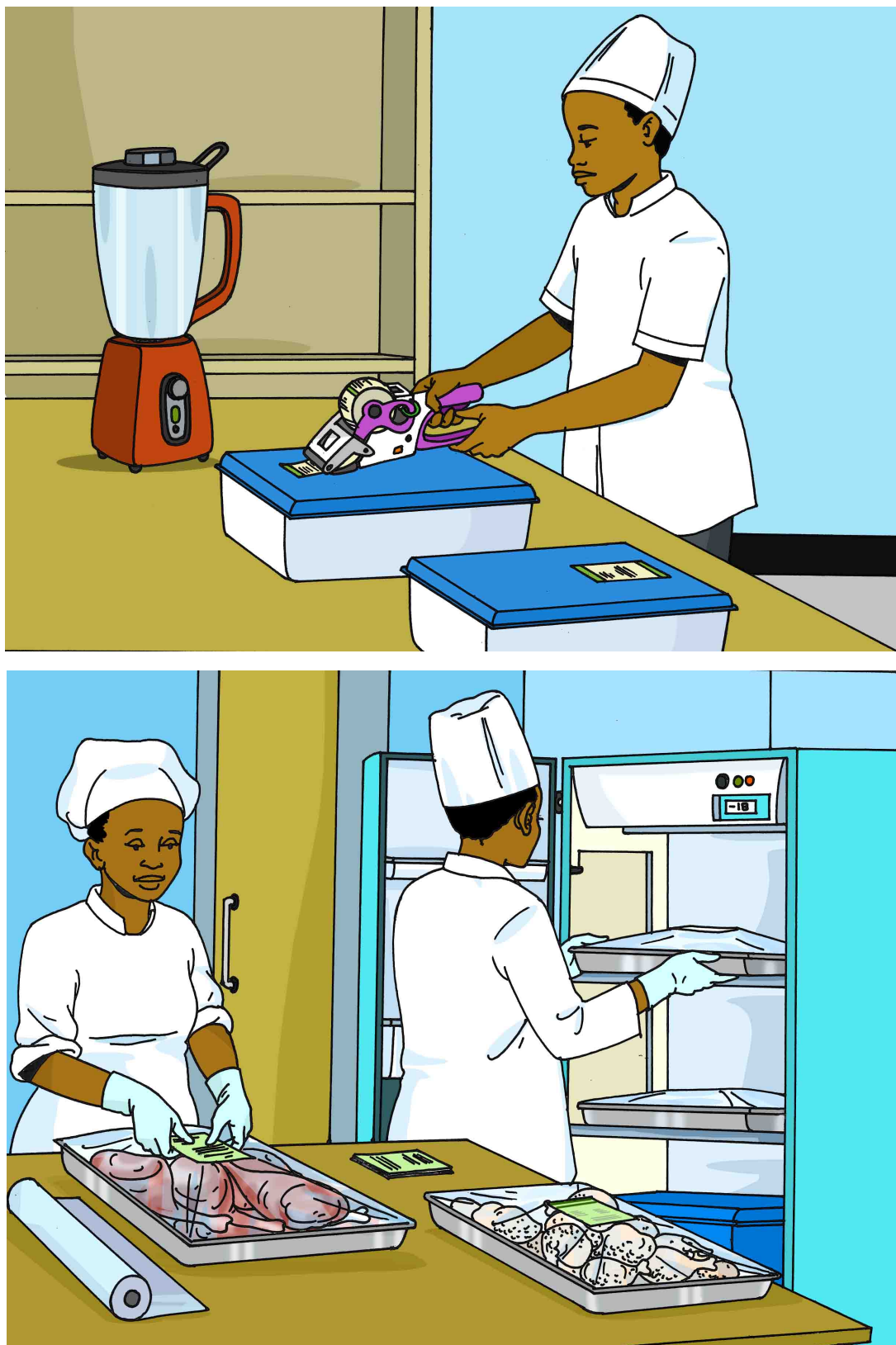


Figure 22: Labeling and storing food commodities

Activity 1: Discovery

"Mandela Restaurant manager is preparing to receive a big event which will host 800pax. And he purchased many food commodities in bulk. Therefore, he requests you to store all purchased food commodities in correct way for maintaining their freshness.



Activity 2: Problem Solving

1. Create groups of 3-4 and discuss and brainstorm on the following questions:
 - a. What food commodity mean?
 - b. What is the importance storing food commodities?
 - c. What are storage techniques are you going to apply for food commodities?
 - d. What is the correct temperature for storing fresh produce?
 - e. What is the correct temperature for storing, fish, poultry and meat which are not going to be used soon?
2. Take time to brainstorm and discuss the questions in your respective groups.
3. Present your work in a plenary session.



Task

Key Facts (Indicative contents)

- **Storing food commodities**

Storing food commodities handles many types of supplies including dry foods, dairy products, frozen foods, produce, and fresh meats. Storage areas for such items often have design requirements that must be built into the space in order to efficiently handle the specific types of supplies. The different types of commodities will require separate storage condition in order to maintain or improve their condition or quality. These commodities are split up into the general categories of meat, fish, fresh fruits and vegetables, dairy products, frozen foods, tinned foods, dry goods and cleaning materials.

❖ Importance storing food commodities

Proper food storage helps to preserve the quality and nutritional value of the foods you purchase, and also helps make the most of your food dollar by preventing spoilage. Additionally, proper food storage can help prevent foodborne illnesses caused by harmful bacteria.

❖ Storage conditions for food commodities

Most produce is stored in the refrigerator at 2° to 4°C (36° to 39°F) to ensure freshness and to prevent rapid deterioration. There are, however, a number of exceptions, including potatoes and bananas, which should be stored at higher temperatures.

✓ Storage conditions for dry foods

The storeroom for dry foods should be located near the receiving area and close to the main kitchen. Unfortunately, the storeroom for dry foods is often an afterthought in food service facility designs, and the area designated for storage is sometimes in an inconvenient location. No matter where the location, there are several essential points to be observed in the care and control of the dry storeroom.

- The area should be dry and cool to prevent spoilage and the swelling of canned goods. The ideal temperature range is 10°C to 15°C (50°F to 59°F).
- The storeroom should be easy to keep clean and free from rodents and vermin. This means all wall, ceiling, and floor openings should be sealed and protected to prevent access.
- It should be designed so it is easy to arrange and rearrange supplies to facilitate stock rotation. The best arrangement is to have shelves situated in the middle of the room so they can be stocked from both sides. This allows you to rotate stock by simply pushing out old stock by sliding new stock in from the other side of the shelf. This guarantees that first items received will be the first items used, or the “first in, first out” (FIFO) concept in stock rotation.
- The area should be well lit.
- Shelving must be at least 15 cm (6 in.) above the floor. Do not store items right on the floor.

- Aisles should be wide enough to allow room for carts or dollies, which should be used to prevent possible injuries from lifting.
- Food and supply storage areas should be kept under lock and key to prevent pilferage. Food storage control is an important step in the overall control of food costs. All storerooms should be considered to be like bank safes where the assets of the operation are being stored. This may mean that more valuable commodities such as liquor and wine should be stored and locked inside a larger storage area, such as the dry food storage area.

✓ **Storage conditions for Refrigerated Products**

The refrigerator, whether a walk-in or a standard upright, is an important component in planning the storage of food items. Most fresh foods must be stored in the refrigerator to delay their deterioration and decomposition. The most basic rule must be always followed: store raw products below, *never* above, your cooked or ready-to-eat products.

Keep foods 4°C (39°F) or colder, the safe temperature for refrigerated storage. Here are some considerations to ensure that the refrigerator does not break down and risk spoiling food:

- Monitor the temperature of the refrigerator daily. All refrigerators should be provided with a thermometer so that daily readings can be taken.
- Keep refrigerators in good working order. Maintain a regular servicing contract with a local refrigerator repair company.
- Most breakdowns are beyond the ability of kitchen staff to repair, but if the refrigerator does stop running, first check that the power supply cord hasn't simply been pulled out or the breaker has flipped off.
- Clean refrigerators regularly. Shelves should be shallow and well vented to make such cleaning quick and easy. Develop and follow a schedule to ensure that refrigerators are cleaned on a consistent basis.

There are also several general rules that all personnel using the refrigerator should follow:

- Store raw products below cooked or ready-to-eat products.
- Develop and follow a FIFO system for refrigerated food.

- Designate areas in the refrigerator for certain items, and keep only those items in their designated place.
- Never put hot foods in the refrigerator unless absolutely necessary. (Unfortunately, one person's understanding of "necessary" may not be the same as another person's, so consider developing guidelines.)
- Never leave the refrigerator door open longer than needed.

Storage conditions for Dairy Products

Dairy products must be stored in the refrigerator at temperatures of 2°C to 4°C (36° to 39°F). Follow these guidelines:

- The fat in dairy products has a tendency to absorb strong odours from the storage surroundings. To reduce the likelihood of this happening, store dairy products in their own area in protective coverings.
- Do not store dairy products in a vegetable cooler; a separate refrigerator is much more acceptable.
- Keep the refrigerator clean at all times.
- Rotate dairy products when fresh product arrives. Dairy products should not be ordered too far in advance of when they will be used. Ideally, such products should be delivered on a daily basis.

✓ Storage conditions for Produce

Most produce is stored in the refrigerator at 2° to 4°C (36° to 39°F) to ensure freshness and to prevent rapid deterioration. There are, however, a number of exceptions, including potatoes and bananas, which should be stored at higher temperatures.

Keep these factors in mind when storing produce:

- Soft fruits should not be stored too long. It is often best to buy soft fruit as you need it, keeping very little on hand.
- Unripe fruit can be ripened at storeroom temperatures of 10°C to 15°C (50°F to 59°F). It will ripen much more slowly under refrigerator conditions.

- Before storing and when rotating stock, it is important to remove rotting fruit from cases as one piece can affect others. The chain reaction can quickly destroy the quality of a whole case of fruit.
- Be aware of special storage problems. For example, bananas stored in the refrigerator turn black quickly. Bananas should be stored under conditions where the temperature range is 10°C to 15°C (50°F to 59°F).
- The length of time produce can be stored varies widely. For example, hardy vegetables such as carrots and cabbage will last for weeks, while delicate vegetables such as lettuce should be bought as fresh as possible as they do not keep for long.
- Moisture on vegetables tends to soften them, causing rot. Even though in the early stages of rot there is nothing basically wrong with such vegetables, they can be unattractive to the eye.

✓ **Storage conditions for Fresh Meats, Poultry, and Seafood**

These items are the most difficult to store and the most expensive food items sold by the restaurant. When storing meats, poultry, and seafood items, remember the critical control point. Keep foods 4°C (39°F) or colder, the safe temperature for refrigerated storage. Keep these factors in mind when storing fresh meats, poultry, and produce:

- All carcass meats should be unwrapped and hung so that air can circulate around them. They should be stored at 1°C to 3°C (34°F to 37°F) in a walk-in refrigerator. Place absorbent paper under the meats for quick cleanup of any unwanted drips.
- Fresh meat must not be kept too long. Boned meat should be kept no longer than three days. Individual cuts should be used within two days, preferably on the day they are cut.
- Individual meat cuts such as steaks, chops, stewing meat, and ground meat should be kept covered on plastic or stainless steel trays at 2°C to 4°C (36°F to 39°F).
- Fresh poultry should be packed in ice and stored in the refrigerator.
- Fresh seafood should be packed in ice, stored at -1°C to 2°C (30°F to 34°F) and used as soon as possible.

- Store raw products on the lower shelves of the refrigerator, below cooked products.

✓ **Storage conditions for Frozen Foods**

Frozen foods should be stored at -18°C (0°F) or lower. If the temperature rises above -18°C , food can become discolored and lose vitamin content. Lowering the temperature after it has risen does not correct the damage.

Keep these factors in mind when storing frozen foods:

- Fruit and vegetables that are received frozen will keep for months if they are properly wrapped. Fish and meat properly wrapped also have a relatively long freezer shelf life.
- Freezing fresh fruits and vegetables on the premises is time consuming and may be too expensive to consider. Fresh fruit must be properly prepared for freezing or it will not store well.
- All freezer products not properly wrapped will develop freezer burn, which is a loss of moisture that affects both the texture and the flavor of the food. A common sign of freezer burn is a white or grey dry spot developing on the surface of the frozen product. Meat is particularly susceptible to freezer burn.
- Rotating stock is extremely important with frozen foods. Such rotation is difficult in standard chest freezers as it often means that old stock must be removed before new stock is added. The temptation with frozen foods is to develop the unacceptable habit of using the last item bought first, instead of FIFO (first in, first out).

• **Storage techniques food commodities**

❖ **Cold storage**

✓ **Refrigerated Products**

The refrigerator, whether a walk-in or a standard upright, is an important component in planning the storage of food items. Most fresh foods must be stored in the refrigerator to delay their deterioration and decomposition. The most basic rule must be always followed: store raw products below, *never* above, your cooked or ready-to-eat products.

✓ Chilled food

Chilled food must be kept at **8°C** or below, except for certain exceptions. When you display cold food, e.g. on a buffet, you should use suitable chilled display equipment to keep it at 8°C or below.

✓ Frozen foods

Frozen foods should be stored at **–18°C (0°F)** or lower. If the temperature rises above **–18°C**, food can become discolored and lose vitamin content.

❖ Dry storage

The storeroom for dry foods should be located near the receiving area and close to the main kitchen. However, **70°F** is adequate for dry storage of most products. Place a thermometer on the wall in the dry storage area.

✓ Application of storage procedures for food commodities

✓ Washing

Washing raw fruits and vegetables is something many people do before cooking or eating them, especially if they have been bought loose from the shop, or have remnants of soil on them. Fresh fruits and vegetables are a healthy way to incorporate vitamins, minerals, fiber, and antioxidants into your diet. Before eating fresh fruits and vegetables, it has long been a recommendation to rinse them well with water to remove any unwanted residues from their surfaces.

▪ General methods to wash produce are as follows

Firm produce. Fruits with firmer skins like apples, lemons, and pears, as well as root vegetables like potatoes, carrots, and turnips, can benefit from being brushed with a clean, soft bristle to better remove residues from their pores.

Leafy greens. Spinach, lettuce, Swiss chard, leeks, and cruciferous vegetables like Brussels sprouts and bok choy should have their outermost layer removed, then be submerged in a bowl of cool water, swished, drained, and rinsed with fresh water.

Delicate produce. Berries, mushrooms, and other types of produce that are more likely to fall apart can be cleaned with a steady stream of water and gentle friction using your fingers to remove grit.

Once you have thoroughly rinsed your produce, dry it using a clean paper or cloth towel. More fragile produce can be laid out on the towel and gently patted or rolled around to dry them without damaging them.

- **Why is it important wash fresh produce**

Properly washing food commodities especially fresh fruits and vegetables is a good habit to practice to minimize the ingestion of potentially harmful residues and germs. Because fresh produce is handled by numerous people before you purchase it from the grocery store or the farmers market. It's best to assume that not every hand that has touched fresh produce has been clean. With all of the people constantly bustling through these environments, it's also safe to assume that much of the fresh produce you purchase has been coughed on, sneezed on, and breathed on as well. Adequately washing fresh fruits and vegetables before you eat them can significantly reduce residues that may be left on them during their journey to your kitchen.

- ✓ **Wrapping**

Food wrapping is defined as enclosing food to protect it from tampering or contamination from physical, chemical, and biological sources.

- ❖ **Wrapping materials**

- ✓ **Cling film**

Cling film, cling wrap, food wrap, plastic wrap or pliofilm is a thin plastic film typically used for sealing food items in containers to keep them fresh over a longer period of time. Plastic wrap,

typically sold on rolls in boxes with a cutting edge, clings to many smooth surfaces and can thus remain tight over the opening of a container without adhesive.

✓ **Aluminum foil**

Aluminum foil is broadly used in culinary preparation of different food types due to its easiness to use, disposability, and properties such as that it transfers heat twice quicker than regular metal. It is a common culinary practice in households to wrap food in aluminum foil and baked it. It is then used to wrap foods items in containers to keep them fresh over a longer

✓ **Labelling**

After washing and wrapping proper labeling of good and shelves should be done in order to have an easy issuing process.

✓ **Storing**

The different types of commodities will require separate storage in order to maintain or improve their quality. These commodities are split up into the general categories of meat, fish, fresh fruits and vegetables, dairy products, frozen foods, tinned foods, dry goods and cleaning materials.

- **Meats:** All sides, quarters or whole carcasses of meat should be hung in cold room at a temperature of 0-1.c with a space between them to allow free circulation of air with drip trays placed underneath in order to collect any blood (To avoid the formation of Rigor Mortis). According to the type of meat this period will vary from 2-10 days, permitting a chemical change to take place to produce more tender meat.
- **Poultry and game** – should be hung at a temperature of 0-1.c with the expectation of venison or hares and rabbits that should be hung at a temperature of 3-4.c. Poultry should be stored on slated shelves at 0-1.c and game placed on metal trays at the same temperature.
- **Fish:** Wet fish should be stored in a separate, special type of refrigerator with perforated non-rust trays allowing the fish to drain and permitting easy cleaning of

refrigerator. The fish should be placed on crushed ice on a wet cloth, covered with another cloth and crushed ice being stored at a temp. 1. c. Shellfish should be placed in boxes covered with a wet sack and crushed ice being stored at a temp of not lower than 3.c. Both wet fish and shellfish should be stored for minimum time.

- **Fresh Fruits and Vegetables:** All types of fresh fruits and vegetables need careful storage properly in a room where there is no sunlight. The room should be dry cool & well ventilated with bins for root vegetables. Fruits and vegetables deteriorate quickly and space should therefore be available to enable easy stock rotation. Soft fruits and melon should be refrigerated at 4-5c.
- **Dairy Products:** Most dairy products with the exception of cheeses should be stored in a refrigerator or cold room at a temp. 0-4.c. Milk should be stored in a container in which it is delivered and kept covered because it will absorb strong smell. Butter and eggs also absorb smells, especially those of fish, onions and cheese. Cheese should be stored in a cool place which is dry and well ventilated. Because of its strong smell cheese should be kept away from other items, if whole cheese is to be stored for a period of time they should be rotated occasionally.
- **Frozen Foods:** There is a great variety of frozen foods in either an uncooked or cooked state and these should be stored at a temp of at least -15.c to -18c. The lower the temperature of freezer means food can be kept for a longer time. All foods should be kept frozen until needed but time must be allowed for defrosting before issuing. Foods should be kept on plastic coated trays in upright deep freezers and in plastic type baskets in the chest type of deep freezer.
- **Tinned Foods:** It should be stored in a dry, well-ventilated store to prevent them from rusting. Blown tins caused by gases should be discarded or returned to supplier as oxidation have taken place either bacteria or tin plating being attacked by the food. Dented tins should be used immediately before they rust.

- **Dry Goods:** are sugar, flour pulses, preserved foods such as jams, pickles, dried fruits, tea, coffee etc. the conditions of storage for the same is dry, cool and well ventilated. They could be kept in bins with the lids on. Some dry goods require airtight lids e.g. tea, coffee, etc.

❖ **Safe food storage guidelines**

To retain quality and nutritive value, stock only the kinds and amounts of food you can store properly. Proper storage means maintaining a clean refrigerator and freezer. Avoid overcrowding the refrigerator. Arrange items so cold air can circulate freely. To reduce dehydration and quality loss, use freezer wrap, freezer-quality plastic bags, or aluminum foil over commercial wrap on meat and poultry that will be stored in the freezer for more than two months.

The following table gives short but safe time limits that will help keep refrigerated food from spoiling or becoming dangerous to eat. The time limits for frozen foods are to maintain flavor and texture. It is still safe to eat frozen foods that have been stored longer.

Safe food storage guidelines.			
Product	Refrigerator (35-40 degrees F)	Freezer (0 degrees F)	Comments
BREADS, PASTRIES AND CAKES			
Breads, baked (no preservatives)	2-3 weeks	2-3 months	Store in refrigerator to inhibit mold growth.
Baked muffins	*	2-3 months	
Baked quick breads	*	2-3 months	
Partially baked cinnamon rolls	1-2 weeks	2-3 months	

Unbaked rolls and bread	3-4 days	1 month	Longer storage inactivates yeast, weakens gluten.
Cakes: frosted baked unfrosted baked	* *	1 month 2-4 months	
Cookies, baked dough	2-3 weeks 3-4 days	6-12 months 3 months	
Flour, white or whole wheat	6-8 months	12 months	Keep in airtight container.
Pies: fruit, baked fruit, unbaked pumpkin or chiffon	2-3 days 1-2 days 2-3 days	2-4 months 2-4 months 1-2 months	
Waffles	1-2 days	1 month	
*Not necessary to refrigerate unless product cannot be used within 3-4 days or “use by” time recommended on package.			
DAIRY PRODUCTS			
Butter	2-3 months	12 months	Freeze in original carton, overwrap in plastic freezer bag.
Buttermilk	1-2 weeks	NR	Check date on carton. Will keep several days after date.
Cheese: cottage, ricotta cream cheese	5-7 days 2 weeks	1 month 1 month	Freezing changes texture of soft cheeses. Becomes crumbly when frozen; can be used in cooking when creaminess is not important.

<p>Natural, aged cheeses (cheddar, Swiss, brick, gouda, mozzarella, etc.): large pieces, packaged or wax coated slices or opened packages Parmesan, Romano, (grated) Pasteurized process cheese</p>	<p>2-3 months 2-3 weeks 12 months 3-4 weeks</p>	<p>6-8 months 6-8 months</p>	<p>Natural and processed cheeses can be frozen. Defrost in refrigerator; cheese will be less likely to crumble. Use soon after thawing.</p>
<p>Coffee whitener (liquid)</p>	<p>3 weeks</p>	<p>See package</p>	
<p>Cream, light or half and half (UHT processed- opened) (UHT processed- unopened) whipping or heavy</p>	<p>1 week 1 week 4 weeks 1 week</p>	<p>3-4 weeks NR</p>	<p>Whipping cream will not whip after thawing. Whipped cream may be frozen and stored for 1-2 weeks.</p>
<p>Dip, sour cream, commercial homemade</p>	<p>2 weeks 3-4 days</p>	<p>NR NR</p>	

Margarine	3 months	12 months	Overwrap in plastic freezer bag for frozen storage.
Milk: evaporated, opened fluid whole or low-fat reconstituted nonfat dry sweetened, condensed, opened	3-5 days 1 week 1 week 3-5 days	1-3 months 1-3 months 1-3 months 1-3 months	Freezing affects milk's flavor, appearance; use for cooking.
Sour cream	2-3 weeks	NR	Sour cream will separate if frozen.
Whipped topping: frozen carton, thawed in aerosol can prepared from mix	2 weeks 3 weeks 3 days	NR NR NR	
Yogurt	1 month	NR	Yogurt will separate if frozen.
EGGS AND EGG PRODUCTS			
Eggs, fresh yolks or whites	4 days	12 months	To freeze, break eggs out of shell; stir until yolk is well blended with white or other yolks. Add small amount of salt, sugar or corn syrup to improve keeping quality.
Eggs, in shell, fresh	3-5 weeks	NR	
Eggs, in shell, hard-cooked	1 week	NR	Decorated Easter eggs: If you intend to eat them, keep refrigerated. If

			eggs are at room temperature for more than 2 hours, do not eat them.
Eggs, liquid pasteurized eggs or egg substitutes, opened	4-5 days	1 year	
Egg-containing products: canned puddings, opened Custards, custard sauces, puddings, custard-filled pastries and cakes	1-2 days1-2 days	NRNR	
FRUITS			
Apples	1-3 weeks	8-12 months*	
Apricots, cranberries	1 week	8-12 months*	
Avocados	3-5 days	4-6 months*	
Bananas	1-2 days, unpeeled	4-6 months	Peel, dip in lemon juice, tray freeze; store in freezer bag.
Berries, cherries	1-2 days	8-12 months*	
Canned fruits, opened	3-5 days	1-2 months	Texture will be softer after freezing. Refrigerate in glass or plastic to avoid metallic taste.

Citrus fruits	3 weeks	4-6 months*	Wrap cut surfaces to prevent loss of Vitamin C.
Dried fruit, cooked	3-5 days	4-6 months	
uncooked	6 months	12 months	
Grapes, peaches, pears, plums, and rhubarb	3-5 days	8-12 months*	
Juices: canned, bottled, frozen concentrate	1 week	12 months	Transfer canned juice to glass or plastic container after opening.
Melons	1 week	4-6 months*	Wrap cut surfaces to prevent Vitamin C loss, control odors.
*Freeze all fruits in moisture- and vaporproof containers. Follow recommended procedures in fact sheet 9.331, <i>Freezing Fruits</i> .			
MEATS			
Fresh			
Bratwurst, fresh	1-2 days	2-3 months	Meats may be left in the supermarket packaging for refrigerator storage or for very brief freezer storage. For frozen storage beyond two weeks, rewrap in moisture- and vapor proof wrap or freezer bags.
precooked	5-7 days	2-3 months	
Chops, lamb	2-4 days	6-9 months	
pork, veal	2-4 days	4-6 months	
Ground beef, stew meat, ground pork, turkey, veal, lamb	1-2 days	3-4 months	

Roasts: beef	2-4 days	6-12 months	
lamb	2-4 days	6-9 months	
veal or pork	2-4 days	4-8 months	
Sausage: pork, beef, turkey	1-2 days	1-2 months	
Steaks, beef	2-4 days	6-12 months	
Variety meats (tongue, liver, brains, heart, kidneys)	1-2 days	3-4 months	
Cooked			
Canned meat, opened	2-3 days	NR	
Cooked meat and meat dishes	3-4 days	2-3 months	Quickly refrigerate all cooked meats and leftovers. Use as soon as possible. Cut large roasts into halves to cool in refrigerator. Fats tend to separate in homemade gravies, stews and sauces but usually recombine when heated.
Gravy and meat broth	1-2 days	2-3 months	Cool leftover gravy and broth quickly, in shallow containers, in the refrigerator.
Processed and Cured			
Bacon	5-7 days	1 month	Keep packaged meats in original package. For best quality, use within one week of "sell by" date.

Corned beef: drained and wrapped in pouch with pickling juice	5-7 days 5-7 days	1 month NR	
Frankfurters (hotdogs)	3-5 days*	1-2 months	Frozen, cured meats lose quality rapidly; use as soon as possible.
Ham, canned, unopened half whole	8-12 months 3-5 days 7 days	NR 1-2 months 1-2 months	Small pieces of canned ham (opened) may be frozen for 4-6 weeks.
Luncheon meats	4 days*	1-2 months	
Sausage, smoked dry and semidry sausage	7 days 2-3 weeks	1-2 months 1-2 months	
*Storage time after vacuum-sealed package is opened. Unopened package may be kept two weeks or according to date on package.			
MISCELLANEOUS PERISHABLE ITEMS			
Baby food, prepared or opened	2-3 days	See comment	Store covered. Do not feed baby from jar. Reheat only enough for 1 feeding. Freeze homemade baby food in ice cube trays, covered. Use in 2-4 weeks.
Candies	6 months	6 months	Chocolates may discolor.
Casseroles	1-2 days	1 month	
Ground spices	6 months*	6-12 months	Can be stored in cupboard.

Salads (store prepared or homemade) – egg, chicken, ham, tuna and macaroni	3-5 days	NR	
Salad dressings, opened	6 months	NR	
Sandwiches	2-3 days	1 month	
Soups, stews	2-3 days	4-6 months	
Soy milk	1 week after opening	1-3 months	Unopened, aseptically packaged soy milk can be stored at room temperature for several months.
Tofu	1 week	5 months	Change storage water every day or two after opening.
*Refrigeration is not necessary, but will help keep flavor fresher.			
POULTRY			
Fresh			
Chicken and turkey, whole	1-2 days	12 months	
Chicken, pieces	1-2 days	9 months	
Duck and goose, whole	1-2 days	6 months	
Giblets	1-2 days	3-4 months	
Turkey, pieces	1-2 days	6 months	
Cooked			

Canned poultry, opened	1-2 days	NR	Quick-cool meat and broth separately in shallow containers. Add ice cubes to concentrated broth to speed cooling and to aid fat removal.
Cooked poultry dishes	3-4 days	4-6 months	
Fried chicken	3-4 days	4 months	
Pieces, covered with broth	1-2 days	6 months	
Pieces, not in broth	3-4 days	1 month	
Chicken nuggets, patties	1-2 days	1 month	
VEGETABLES			
Asparagus	2-3 days	8-12 months*	
Beans, green or wax; celery	1 week	8-12 months*	
Beets, cabbage, carrots, turnips	1-2 weeks	8-12 months*	
Broccoli, Brussels sprouts	1 week	8-12 months*	
Cauliflower	1 week	8-12 months*	
Corn, on the cob	1-2 days	8-12 months*	
Cucumbers	1 week	NR	
Lettuce, other salad greens	1 week	NR	Store in bag or lettuce keeper.

Mushrooms	1-2 days	8-12 months*	Do not wash before refrigerator storage.
Okra	3-5 days	8-12 months*	
Onions, green mature	3-5 days 1-2 weeks	NR 3-6 months*	
Peas, lima beans, unshelled	3-5 days	8-12 months*	Store unshelled in refrigerator until used.
Peppers	1 week	8-12 months*	
Radishes	2 weeks	NR	
Tomatoes, canned, open fresh, ripe	1-4 days 5-6 days	8-12 months*	See 9.341, <i>Canning Tomatoes and Tomato Products</i> .
*Blanch fresh vegetables and freeze in moisture- and vaporproof materials. See 9.330, <i>Freezing Vegetables</i> .			
WILD GAME AND SEAFOOD			
Wild Game			
Rabbit, squirrel	1-2 days	6-12 months	
Venison	2-4 days	6-12 months	
Wild duck, pheasant, goose, whole	1-2 days	6 months	
Seafood			
Canned fish, seafood, opened	3-4 days	NR	

Clams, oysters (shucked), and scallops	1-2 days	3-4 months	Store in coldest part of refrigerator. Do not use if liquid is frothy.
Cooked fish	3-4 days	4-6 months	
Crab	1-2 days	2 months	
Filletts, fatty: mullet, ocean perch, sea perch, sea trout, striped bass	1-2 days	2-3 months	
Filletts, lean: cod, flounder, haddock	1-2 days	4-6 months	
Fresh water fish, cleaned	1-2 days	6-9 months	
Lobster, shelled or not	1-2 days	6-12 months	
Salmon steaks	1-2 days	2 months	
Shrimp	1-2 days	6-12 months	
Smoked fish	14 days or date on vacuum package	2 months in vacuum package	
NR: Not recommended.			

Table 27: Safe food storage guidelines

Source: edited by Author from: <https://www.foodsafety.gov/food-safety-charts>



Activity 3: Guided Practice

1. As you have already worked on task 2, perform the following task:

- a. Apply storage techniques for food commodities
- b. Store vegetables and fruits at correct temperature
- c. Store meat at correct temperature



Activity 4: Application

1. In kitchen workshop, observe the store carefully and perform the following tasks:

- a. Apply storage techniques for food commodities
- b. Store vegetables and fruits at correct temperature
- c. Store meat at correct temperature

2. Each student will perform individually.



Formative Assessment

True or False Questions

1. Based on storing tools, a magnetic knife holder is a practical option for saving counter space in kitchen while drawer Knife block keeps knives organized, visible, and safely stored?

True

False

Answer:

2. Based on Kitchen storing equipment, a refrigerated storage is a storage space planned and maintained at a temperature between -18oC and -24oC.

True

False

Answer:.....

3. It is very important to store kitchen tools and equipment after cleaning and being kept in storage cabinets and drawers and labeled to find them easily?

True

False

Answer:.....

4. Cleaned and polished glasses should be stored upside down in a cupboard or shelves lined with paper. Glasses should not be put inside the other as this will cause cracks and accidents for staff. And it is important to handle glasses by their base or stem to avoid fingerprints?

True

False

Answer:.....

5. The correct temperature for storing fresh produce like Fresh fruits and vegetables is 10°C to 15°C (50°F to 59°F).

True

False

Answer:.....

6. Dairy products must be stored in the refrigerator at temperatures of 2°C to 4°C (36° to 39°F).

True

False

Answer:.....

7. Based on Kitchen storing equipment, Shelving Unit are used to store various dry goods prior to use. Storage Bins and Racks Storage bins are available in a variety of styles. Some storage bins are large, heavy plastic or polyurethane bins with lids.

True

False

Answer:.....

Open Ended Questions

1. What are two storage techniques for food commodities?

Answer:

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2. Stateuses of Refrigerators?

Answer:

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3. What is the importance storing food commodities?

Answer:

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.....

5. State importance of storing food commodities.

Answer:

.....
.....
.....
.....

Multiple choice questions

1. Which one of the following is the Storage conditions for Frozen Foods?

- a) 4°C (39°F)
- b) 2° to 4°C (36° to 39°F)
- c) 1°C to 3°C (34°C to 37°F)
- d) 2°C to 4°C (36°F to 39°F).
- e) -1°C to 2°C (30°C to 34°F)
- f) -18°C (0°F) or lower.

Answer:.....

2. Based on Kitchen storing tools, What types of Knife Storage

among the following is a wooden block with individual slots carved into it for different knife types?

- a. Edge guards
- b. Knife blocks
- c. Drawer knife blocks
- d. Leather knife rolls
- e. Magnetic knife strip
- f. Magnetic knife blocks
- g. Drawer Knife Block

Answer:.....



Self Reflection

At the end of every unit trainees should:

1. Re-take the self assessment they did at the beginning of the unit.
2. Fill in the table above and share results with the trainer for further guidance.

Areas of strength	Areas for improvement	Actions to be taken to improve
1.	1.	1.
2.	2.	2.



Points to Remember

Refrigerators should be kept at or below 40° F (4° C). Maintaining and monitoring refrigerator temperatures is essential to preventing spoilage and is often overlooked when the appliance appears to be running normally.

Monitor refrigerator temperatures with a wireless temperature monitoring system in food retail stores, cafeterias, and restaurants.

Thaw frozen meats in the refrigerator and marinate foods in the refrigerator rather than on the countertop, to slow the growth of bacteria.

Keep foods covered, in sealed containers, or in plastic bags to prevent cross-contamination.

Use real-time alerts to respond to food safety emergencies and protect inventory, saving on spoilage cleanup and the cost of replacement inventory.

Staple foods like flour, sugar, salt, yeast, and other dry goods should be stored in a cool dry place. Use sealed containers or storage bags to maintain their taste and freshness.

Store all non-perishable foods away from cleaning supplies and chemicals.

Track arrival of shipments, use by, best buy, or expiration dates and use older stock first.

Most staple items are still safe after their best by date, with the exception of baby foods and formula, which should be discarded on their “use by” date.

Keep appliance doors closed as much as possible during a power outage.

An unopened refrigerator can hold food safely for about four hours or two hours after the interior temperature rises above 40 degrees.

A full unopened freezer can stay below freezing for about 48 hours. If food begins to thaw or reaches 40° F, it should be refrigerated and used quickly, not refrozen.

Further Information for the Trainee

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Summative Assessment

Integrated/Summative assessment (For specific module)

Integrated situation

The hotel is expecting to receive 4 guests from RTB and their lunch menu has vegetable and starch dishes. As a commis chef, your Head Chef requested you to perform mise en place for this menu within 3 hours.

Tasks:

1. Select tools and equipment /10 minutes
2. Select ingredients /10 minutes
3. Defrost, trim and cut Beef into cubes /40 minutes
4. Peel and cut Carrot into julienne and Brunoise /30 minutes
5. Blanch and refresh Spaghetti pasta /20 minutes
6. Set and arrange buffet station /40 minutes
7. Store food, tools and equipment /30 minutes

Keeping in mind that the quantity of ingredients is specified as follow:

1kg of meat, 1kg of carrots, 500 grams of spaghetti pasta

Resources

Tools	•Knives, Peelers, pots, containers, mixing bowls, Cutting boards, buffet tools and facilities.
Equipment	•Working table, cutting machine, storage cabinets, fridges, freezers, cookers.
Materials/ Consumables	• Carrots, Beef, Spaghetti Pasta Pastas, spices and seasonings. Task sheet, pens and menu

Assessable outcomes	Assessment criteria (Based on performance criteria)	Indicator	Observation		Marks allocation
			Yes	No	
Learning outcome 1: Select and use tools and	1.1 Tools and equipment are	Ind.1 Right tools are well identified			1

equipment (10%)	properly identified as per usage	Ind. 2 Right equipment are well identified			1
	1.2 Tools and equipment are properly selected according to the usage.	Ind.1 Cutting tools are properly collected			2
		Ind.2 Pots and pans are properly collected			2
	1.3 Tools and equipment are efficiently used following the manufactures' instructions.	Ind1. Maintenance tasks for tools and equipments are well executed			2
		Ind 2 Manufacturer's instructions for tools and equipment are respected			2

Learning outcome 2: Identify and select food commodities (20%)	2.1 Food commodities are appropriately identified referring to the recipe.	Ind.1 the quality of raw food items are checked			1
		Ind2. Right raw food items are considered			1
	2.2 Animal based food commodities are properly selected referring to the recipe	Ind.1 the quality of Raw beef meat is well checked			4
		Ind 2. Raw beef meat is well selected			3
	2.3 Plant based food commodities are properly selected in accordance with recipe	Ind 1. Vegetables are checked for the quality			1
		Ind 2. Right vegetables are well selected			2
		Ind3. Seasoning and spices are selected			2
	2.4 Food preserves and processed are	Ind1. Food preserves are well selected			2

	appropriately selected as per recipe.	Ind2. processed food are well selected			1
	2.5 Food garnishes are appropriately selected as per recipe	Ind1. food garnishes are well defined			1
		Ind2.Importance of food garnishes is demonstrated			1
		Ind3. Food garnishes are identified			1
Learning outcome 3: Prepare ingredients (30%)	3.1Ingredients are appropriately selected as per recipe.	Ind1. Ingredients are checked for quality			2
		Ind2. Selection guidelines are implemented			4
	3.2 Efficient application of ingredients measurements for recipe portioning standard	Ind1 Kitchen measuring tools are collected			4
		Ind2 Quantity of ingredients are measured			3
	3.1 Preliminary preparations techniques for	Ind1 the right meat cuts are presented			4

	ingredients are correctly applied as per the food safety and hygiene standards.	Ind2 Meats are trimmed and deboned			4
		Ind3.Safety and hygiene is maintained			2
	3.4. Vegetable cutting techniques are correctly applied as per recipe	Ind1. vegetable cuts are presented			3
		Ind2. Spaghetti pasta are blanched and refreshed			2
		Ind3. Safety and hygiene is maintained			2
Learning outcome 4: Set and arrange buffet station(25%)	4.1 Tools and equipment properly selected for buffet stations	Ind 1 right buffet tools are well selected			4
		Ind 2. Buffet equipment are well arranged			4
	4.2 Buffet station are correctly aligned of as per the set menu	Ind1. Buffet alignment is verified			4
		Ind2. Buffet alignment procedures are applied			4
		Ind3. Buffet alignment			3

		guidelines are followed			
	4.3 Buffet station are correctly decorated as per menu standards	Ind1. Correct decoration items are selected			3
		Ind2. Decoration guidelines are correctly applied			2
		Ind3. Decoration techniques or buffet station are applied			2
Learning outcome 5: Store food, tools and equipment (15%)	5.1 Storing tools and equipment are appropriately identified as per use.	Ind1 Storing tools are well collected			1
		Ind2. Storing equipment are collected			1
	5.2 Cleaning techniques for tools and equipment are properly applied as per user manual	Ind1. cleaning tools are selected			1
		Ind2. cleaning techniques for tools and equipment are applied			1

		Ind 3 cleaning procedures are applied			1
	5.3 Food commodities are properly stored as per safety standards	Ind1 Importance storing food commodities			1
		Ind2 Identification of storage conditions for food commodities			1
		Ind3 Application of storage techniques food commodities			1
	5.4 Tools and equipment are properly stored as safety standards	Ind1 storing tools and equipment are selected			1
		Ind2 Storage conditions for kitchen tools and equipment are applied			1
		Ind3 right storing			1

		techniques of kitchen tools and equipment are applied			
	5.5 Basic maintenance tasks properly applied for tools and equipment before and after usage	Ind1. basic maintenance is done			2
		Ind2. tools and equipment are handled			2
Total marks		100			
Percentage Weightage		100%			
Minimum Passing line % (Aggregate):		70%			

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