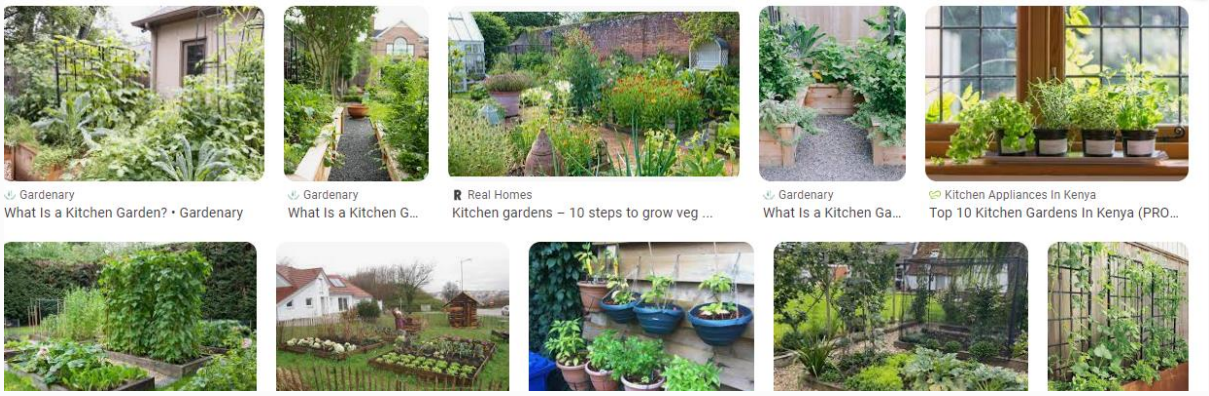
Nutrition security

Nutrition security means consistent access, availability, and affordability of foods and beverages that promote well-being, prevent disease, and, if needed, treat disease, particularly among racial/ethnic minority, lower income, and rural and remote populations including Tribal communities and Insular areas.

Kitchen garden

Kitchen garden is the growing of fruits and vegetables at the backyard of house by using kitchen waste water. Otherwise called as Home garden or Nutrition garden or Kitchen gardening or Vegetable gardening. Advantages of Kitchen garden : Supply fresh fruits and vegetables high in nutritive value.ty



Reasons For Kitchen Garden

1.Clean air: Your balcony, terrace or courtyard can become your green lungs amidst the dust and dirt around you. The more you plant, the more fresh air with good oxygen you get.

2.Herbs detox: Herbs are quite essential in our food which helps in detoxifying and healing properties in our body. Few herbs and plants that are easy to maintain in kitchen garden are: lemon grass, coriander, cilantro, mint, tulsi, celery, fenugreek, spinach.

3.Aesthetics matter: Plants make your home greener, more peaceful, uplift your mood and make you feel more positive.

4. Stay grounded: Modernisation uproots us from the mother earth. As the ancient sages say, our body is made of five components that includes earth, water, ether, air and fire. So it is very important to stay connected with earth.

5.Organic vegetables: Growing own fruits and vegetables can offer the opportunity to reduce the amount of pesticides that are used commercially, making them healthier

6. Compost your waste: Plant fertilisers, made by decaying organic materials, like kitchen wastes, will help your plants grow faster, while helping you to get rid of your garbage

7.Cheap and easy: Kitchen gardens can help you grow things at home and bring down the need to buy from the market, hence, save money on food purchase.

8.Recycle and use: You can recycle vegetables in your kitchen garden. For example, you can collect your unwanted vegetables and make compost for it and use it again for compost, growing new vegetables and herbs.

10. Health friendly: It is a great way to engage the whole family in physical activity. Gardening is known to reduce levels of stress hormones.

Crops for kitchen garden

Seeds or seedlings. Common foods to grow include leafy greens such as spinach, leafy onions, sukumawiki, lettuce, tomatoes, terere, strawberries, herbs-mint, dhania, broccoli, cauliflower and even potatoes.

Types of kitchen gardens.

1. **Hanging kitchen gardens in Kenya**

Hanging kitchen gardens are perfect for small spaces or if you want to save on countertop space.

Herbs and leafy greens do well in hanging gardens, as they don't need a lot of root room to grow. Just make sure to water your plants regularly so the soil doesn't dry out.

Advantages:

- Offers a unique decoration for your kitchen
- Gives you the opportunity to grow your own herbs and spices
- Saves counter space
- Provides fresh air
- Can be a fun project for the whole family

Cons:

- Requires regular watering
- May attract pests
- Must be positioned in a sunny spot
- Limited growing space
- Requires some initial set-up

2. Container kitchen gardens in Kenya

Container gardening is another great option for small spaces or those who want to move their garden around easily.

You can use just about any type of container – from pots and barrels to old wheelbarrows – as long as it has drainage holes. Be sure to choose plants that are well-suited for container gardening, such as tomatoes, strawberries, and peppers.

Advantages:

- They are less expensive than in-ground gardens.
- Are easier to set up and take care of.
- They can be placed almost anywhere, including on patios, decks, and balconies.
- Can help to save water since the soil is not exposed to the elements.
- They can produce a lot of food in a small space.

Cons:

- The plants may not get enough sunlight if they are placed in a shaded area.
- The roots may become entangled if the containers are placed too close together.
- The plants may become stressed if they do not have enough room to grow.
- The soil may need to be replaced more often than in an in-ground garden.
- There is a greater risk of pests and diseases with container gardens than with in-ground gardens in Kenya.

3. **Raised bed kitchen gardens in Kenya**

Raised beds are a great way to grow a variety of vegetables, herbs, and fruits.

They’re perfect for small spaces or areas with poor soil quality. Just be sure the bed is at least 6 inches deep so roots have enough room to grow.

Also, make sure the sides of the bed are tall enough so you can reach in without stepping on your plants (this will help prevent compacting the soil).

Advantages:

- They take up less space than traditional gardens, so they're perfect for small yards or patios.
- The soil in raised beds warms up faster in the spring, so you can plant earlier.
- You can control the quality of the soil more easily, so your plants will be healthy and thrive.
- Because they're elevated, raised beds are easier on your back and knees when you're gardening.
- They're also more attractive than traditional gardens, so they can enhance the curb appeal of your home.

Cons:

- They can be more expensive to set up than traditional gardens, since you'll need to buy lumber and soil.
- They require more watering than traditional gardens, since the soil tends to dry out quicker.
- The soil in raised beds can also get too hot in the summer, which can damage plants or hinder their growth.

4. In-ground kitchen gardens in Kenya

In-ground gardens are the most traditional type of kitchen garden. If you have the space, an in-ground garden is a great way to grow a large variety of plants.

Be sure to choose soil that’s well-suited for your climate and plant choices.

For example, if you live in an area with hot summers, opt for sandy soil that will drain well and won’t bake your plants in the heat.

Advantages:

- You can design them to fit your specific needs and the space you have available.
- They can include features such as built-in irrigation and drainage systems.
- You can choose from a wide variety of plants to grow.
- They can be beautiful and add curb appeal to your home.

- They can increase your property value.

Cons:

- They require more initial investment than above-ground gardens.
- They require more maintenance than above-ground gardens.
- They are subject to soil erosion and compaction if not properly cared for.
- They can attract pests and diseases if not properly managed.
- They may require special permits or permission from your homeowner’s association or local government.

5**. Indoor kitchen gardens:**

If you don’t have any outdoor space or if you want to extend your growing season, consider starting an indoor kitchen garden in Kenya.

Many vegetables, herbs, and fruits can be grown indoors with the right setup.

Just make sure you choose a sunny spot in your home and use to grow lights if needed.

ADVANTAGES:

- No pests or bad weather to ruin your plants!
- You can grow a wide variety of plants indoors.
- Indoor gardens are low maintenance.
- They can add color and life to any room.
- You can control the environment, making it ideal for growing delicate plants.

CONS:

- Not all plants will do well indoors.
- You need adequate lighting to grow indoor plants successfully.
- Some plants require a lot of space, so they may not be suitable for small homes or apartments.
- Indoor gardens can be expensive to set up, especially if you need to buy special equipment like grow lights.
- If you’re not careful, your indoor garden can become a breeding ground for mould and mildew.

6. Potager kitchen garden

A Potager is a type of kitchen garden that’s designed for both beauty and function.

These gardens are typically laid out in a symmetrical or geometric pattern and often feature ornamental plants as well as edible ones.

If you have the space, consider adding a small pond or fountain to your potager – this will not only add to its visual appeal but also provide a home for beneficial insects like dragonflies and frogs.

PRO:

- A potager kitchen garden is a great way to have fresh herbs and vegetables right at your fingertips.
- They are also visually appealing and can add a touch of beauty to your yard or patio.
- They are easy to care for and don’t require a lot of space.

- Potager kitchen gardens in Kenya are also great for entertaining since they can be used as a conversation piece.
- They are also a great way to get kids interested in gardening and eating healthy.

CONS:

- The biggest con of having a potager kitchen garden is that it can be costly to set up.
- They also require regular maintenance in order to keep them looking their best.
- If you have pets, you'll need to be careful that they don't dig in the garden and disturb the plants.
- Bad weather can also damage your potager kitchen garden

7. **Permaculture kitchen garden**

Permaculture is all about working with nature instead of against it. In a permaculture kitchen garden in Kenya, plants are grown close together so they can support each other (for example, tall plants may provide shade for shorter ones).

Companion planting is often used in permaculture gardens, which means different types of plants are planted next to each other to deter pests or improve yields.

For example, garlic repels many common insect pests so it could be planted near tomatoes or cabbage (just make sure you don't plant too much of any one thing as this can throw off the balance).

Advantages:

- A permaculture kitchen garden can provide a family with most of their fresh produce needs year-round.
- These types of gardens in Kenya are designed to be low-maintenance, meaning less work for the gardener.
- The use of companion planting and other natural methods means that permaculture gardens are typically more pest and disease resistant than conventional gardens.
- Water usage is often much lower in permaculture gardens due to the use of mulch and other water-conserving techniques.
- Permaculture gardens can be beautiful, incorporating edible plants into the design.

Cons:

- Permaculture gardens can take some time to establish, especially if you are starting from scratch.
- You may need to learn some new gardening techniques if you want to start a permaculture kitchen garden.
- You may need to make some changes to your cooking habits if you want to make the most of your permaculture garden.

8. Vertical kitchen garden in Kenya

A vertical garden is a great way to save space and grow a variety of plants. There are many different ways to create a vertical garden, from trellises and lattices to hanging baskets and shelves.

Just make sure you choose plants that are appropriate for the type of support you're using.

For example, vines will need something to climb on while smaller herbs or leafy greens can be grown in shallow containers without much root room.

Advantages:

- You can grow a lot of plants in a small space.
- The plants get more sun than they would if they were on the ground.
- You can control the environment around the plants more easily.
- It looks cool.

- You can use the water that drains from the plants to water other plants.

Cons:

- You have to water the plants more often because they dry out faster.
- The plants are more susceptible to pests and diseases.
- If you don’t have a good support system, the plants can fall over and die.
- It can be difficult to harvest the plants.
- You have to be careful not to overwater the plants, or they will rot.

9. **Hydroponic kitchen garden in Kenya**

Hydroponics is a method of growing plants in water instead of soil. This can be done with just about any type of plant, but it’s especially well-suited for leafy greens like lettuce and spinach (which don’t need deep roots).

Hydroponic gardens in Kenya are often used indoors since they take up very little space and can be controlled more easily than outdoor gardens (for example, you can adjust the temperature and humidity levels).

Advantages:

- They are very space efficient since the plants are grown vertically in a small footprint.
- They can be set up indoors, so even if you live in an apartment you can still grow your own food.
- Hydroponically grown plants tend to be more nutrient-dense than soil-grown plants, so you get more bang for your buck, nutritionally speaking.
- Since hydroponic gardens use less water than traditional gardens, they are more environmentally friendly.
- They are also less likely to attract pests and diseases since the plants are not growing in dirt.

Cons:

There are some drawbacks to hydroponic kitchen gardens as well:

- They can be expensive to set up, depending on the size and complexity of the system you choose.
- They require some basic knowledge of plant nutrition and physiology in order to be successful.
- If not properly maintained, hydroponic gardens can become breeding grounds for mould and other pathogens.

10**. Staircase kitchen garden in Kenya**

A staircase garden is a type of vertical garden that’s perfect for small spaces.

These gardens are typically built on staircases or other types of raised platforms.

Plants are grown in shallow containers, which can be placed close together to save space.

Be sure to choose plants that don’t need deep roots, such as herbs and leafy greens.

ADVANTAGES:

- A staircase kitchen garden is a great way to make use of vertical space.
- Staircase kitchen gardens in Kenya are perfect for small spaces.
- They are easy to build and maintain.
- Staircase kitchen gardens are aesthetically pleasing.
- They can be used to grow a variety of plants and vegetables.

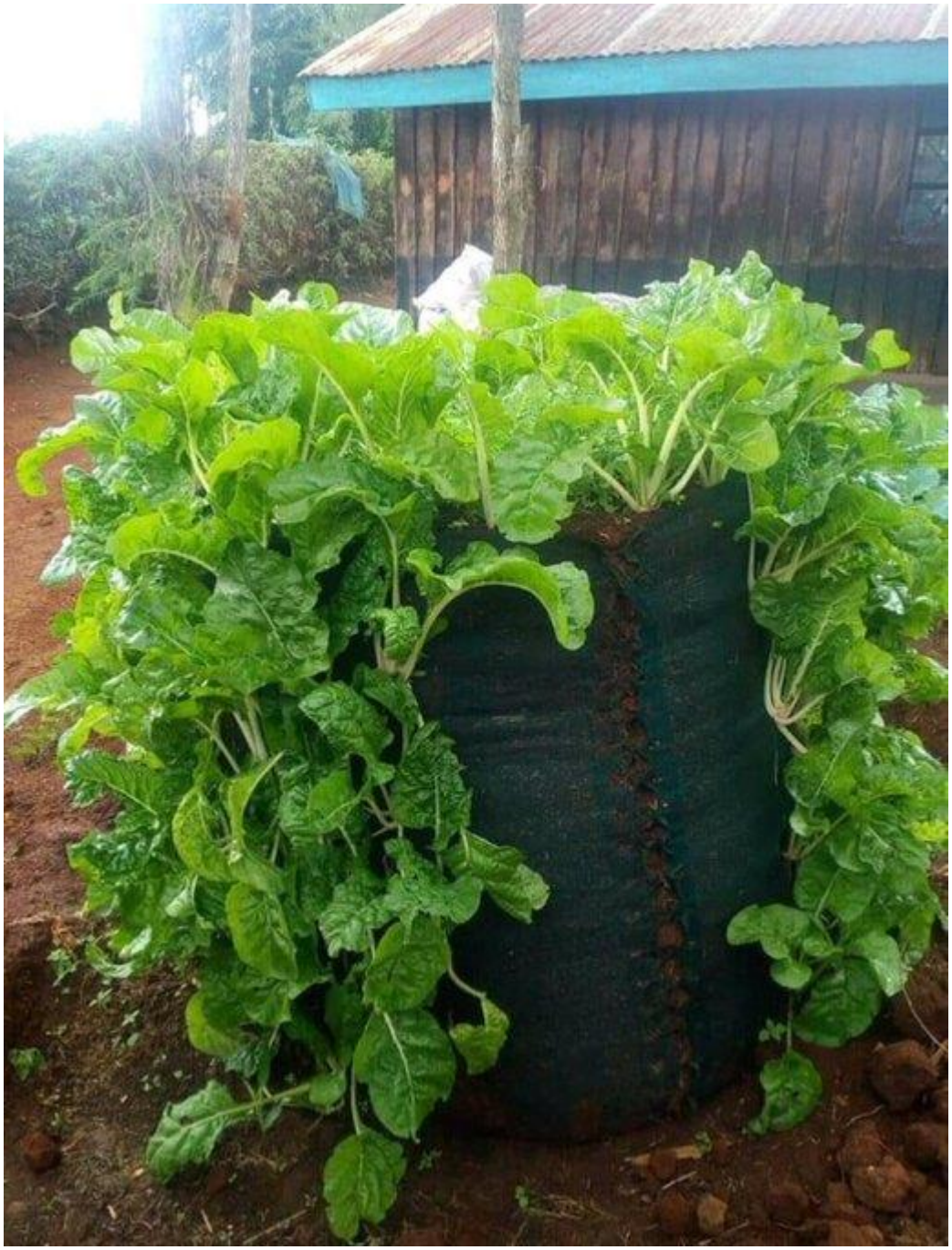
CONS:

- Staircase kitchen gardens can be expensive to build.
- They require a lot of maintenance.
- The stairs can be dangerous if they are not built properly.
- They can be difficult to access for people with disabilities.
- Pests and diseases can easily spread in a staircase kitchen garden.

11**. Simple drip garden**

12. **Tyre kitchen garden**

13**. Multi storey kitchen garden**



14. **Food robe kitchen garden**

15**. Sack kitchen garden**

16. **Wick irrigation kitchen garden**

17. **Moist bed kitchen garden**

18. Aquaponics kitchen garden

19. **Yard small kitchen garden**

20. Cone kitchen garden

21. Micro-kitchen garden

Starting a kitchen garden

To start a kitchen garden in Kenya, you will need to find a sunny spot in your yard and prepare the soil. You can then choose what vegetables or herbs you would like to grow. Once you have chosen your plants, you will need to plant them in the prepared soil and water them regularly.

Step 1: Find a sunny spot in your yard and prepare the soil.

You will need to find an area in your yard that gets a lot of sunlight. Then, you will need to till the soil and add some compost or manure.

Step 2: Choose what vegetables or herbs you would like to grow.

Decide which plants you want to grow in your garden. Some popular choices include tomatoes, peppers, carrots, and lettuce. You can also choose to grow herbs such as basil or oregano.

Step 3: Plant your seeds or seedlings.

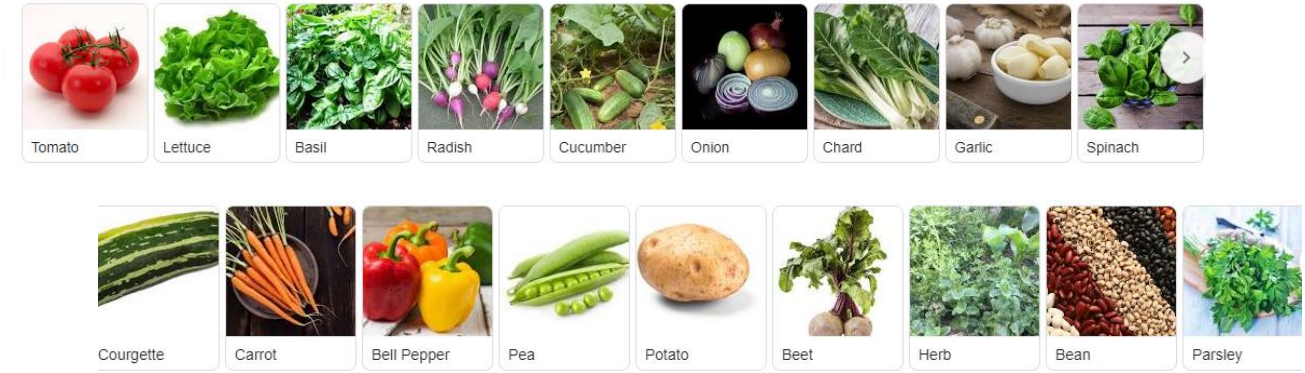
Plant the seeds or seedlings in the prepared soil and water them regularly. You will need to keep an eye on your plants and make sure they have enough water and sunlight. Harvest your vegetables or herbs when they are ready!

What are the benefits of growing a kitchen garden in Kenya?

There are many benefits to growing a kitchen garden. Some of these include:

- Getting fresh fruits, vegetables, and herbs that are pesticide-free
- Saving money by not having to buy produce at the grocery store
- Having a relaxing hobby that gets you outside in the fresh air
- Improving your physical health by getting exercise while gardening
- Boosting your mental health by reducing stress

What are the best types of vegetables and fruits to grow in a kitchen garden?



FOOD AND NUTRITION

COOKING STARCHY CARBOHYDRATES

https://www.youtube.com/watch?v=r9ZrT5vtVv0

Why is food cooked?

Food may be contaminated with harmful microbes that can cause disease. The high temperature involved in cooking brings about chemical changes in food and kills these microbes.

Cooking also makes food easier to digest and improves the food's appearance, texture and flavour.

These are a few examples of ways to cook food, and notice that all of these methods involve heating the food to a high temperature:

- Baking
- Boiling
- Steaming
- Grilling
- Frying

Heat transfer when cooking

During cooking, heat is transferred from the source of heat to the food through conduction (e.g. grilling steak on a grilling pan sitting on a stove), convection (e.g. running cold water over frozen food to speed up thawing process) and/or radiation (roasting marshmallow over fire).

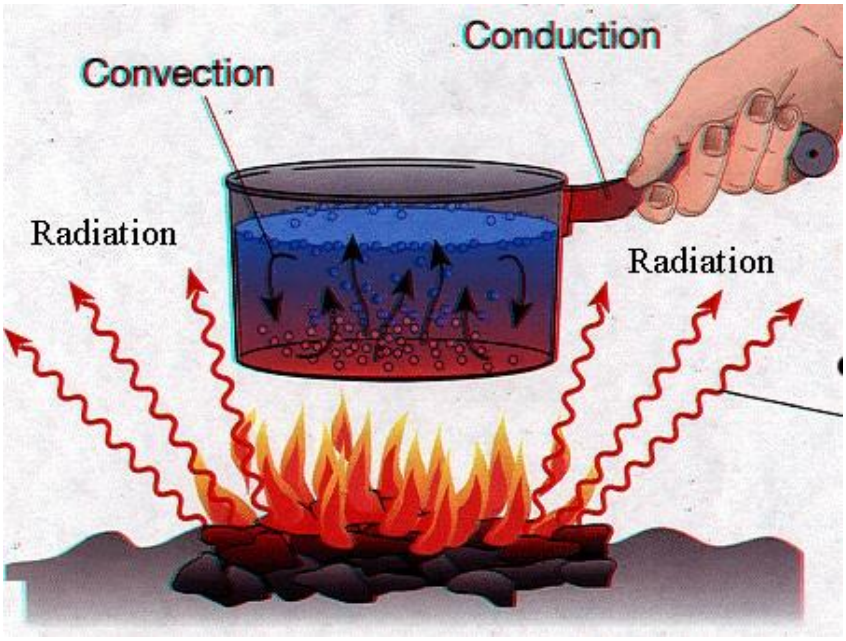
Check out the resources below to learn more why food is cooked and how heat is transferred (conduction, convection and radiation).

We know that cooking gets the food hot. It makes what is otherwise unsafe to be consumed raw, safe to eat.

In order to do so, food has to be put in an oven or on the stovetop and be subjected to a source of heat. When the heat transfers from something that is hot, such as a flame or a pot of boiling water, to the food, this process is called heat transfer.

There are three types of heat transfer: conduction, convection and radiation. What distinguishes them is the manner in which the heat in transferred. Without a medium, heat cannot be transferred.

The different ways that heat transfer can be accomplished determines how the food is cooked and what the end result will be.



Convection

Heat is transferred via liquids and gases. Fast moving molecules of the convection medium collide with the slower molecules in the food and heat them up.As warmer areas of a liquid or gas rise to cooler areas, it forms a continuous circulation pattern.

These convection currents can be observed when water is boiling in a pot.

Convection that takes place through air occurs in a convection oven. Compared to traditional ovens, ovens using convection are usually the better choice as it has fas to circulate the air around. On the contrary, traditional ovens mostly rely on radiation off the oven walls and is therefore a more eficient method of heat transfer. It heats food faster and reduces cooking times by at least 25%.

Below are some examples of convection heating.

- Baking and roasting
- Boiling and steaming

- Running cold water over frozen food, which transfers heat into the food to thaw it more quickly

Radiation

Heat is transferrred via electromagnetical waves. This method of heat transfer does not rely upon any contact between the heat source and the heated object, unlike the other two.

When heat is transmitted though empty space by thermal radiation, it is also called infrared radiation. For instance, when you hold your hand near glowing coals or a stovetop burner, the heat you feel is infrared.

Microwave is also radiation-based, utilizing short, high-frequency waves to penetrate food. As a result, it usually cooks food faster than infrared radiation, since it is able to penetrate foods several inches deep. It works best for cooking small batches of food.

Conduction

Heat is transferred via solid material. What this means is the two substances are in direct contact with each other.

The better the conductor, the more rapidly heat will be transferred. Metal is one such good conductor of heat.

When a substance is heated, particles will gain more energy, and vibrate more. These molecules then bump into nearby particles and this allows for the energy to be transferred. This is how heat is passed from the hot end down to the colder end.

In order for food to be in uniform contact with heat, fat or oil is used during cooking.

Below are some examples of conduction heating.

- Grilling steak, chicken breasts, or pork chops
- Using ice water to blanch vegetables after steaming to keep them from losing their colour

Carbohydrates

Starchy

Starchy foods – such as potatoes, bread, rice, pasta, and cereals – should make up just over a third of the food you eat

Simple sugars

Simple carbohydrates are broken down quickly by the body to be used as energy. Simple carbohydrates are found naturally in foods such as fruits, milk, and milk products. They are also found in processed and refined sugars such as candy, table

sugar, syrups, and soft drinks.

Double sugars

- Whole grains. Whole grains are good sources of fibre, as well as potassium, magn
- Fibre-rich fruits. Sc
bananas. ...
- Fibre-rich vegetabl
- Beans.

How Heat Affects Foods and Their Flavors

Posted on June 8, 2021 by **MadgeTech Marketing**

Starches

Starch is the most common carbohydrate in human diets, whether it’s natural or is added to foods. As heat is applied to starch it absorbs moisture from its surroundings and becomes softer. This process is called gelatinization and is the reason pasta and rice double in size and soften when cooked.

Gelatinization begins at 150° F.

EFFECT OF OVERHEATING IN FOOD

Nandhini Ramanathan 

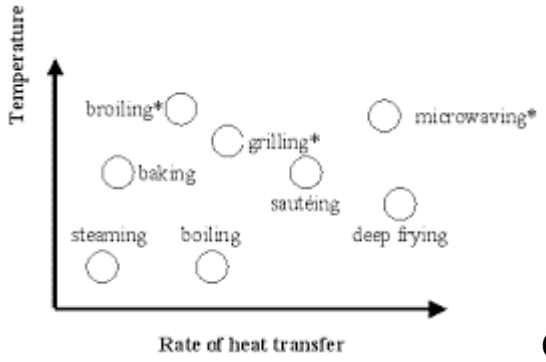
Nandhini Ramanathan

I am a foodtechnology student | Leadership |self-motivated | team work |

Published Aug 30, 2023

HOW HEAT AFFECTS FOOD

During the heating process or the “cooking” of food, a complex series of physical and chemical changes take place. These changes vary according to the heating method and time exposed, but may ultimately include changes in nutrient composition, fat content, moisture, flavor, smell, texture, and color. The longer the food is heated, and the higher the temperature, the greater the nutrient loss. When we look at commercially prepared dog food or even home cooking as preparation, the heat applied during the extrusion process, grilling or microwaving contribute to the reduction in nutritional value most of the time.



Graph

Protein goes through certain physical and chemical changes when it is heated and cooked (pg 88, SACN) When the proteins in food are heated, they coagulate. An example of this can be observed in the proteins found in eggs which become denatured and coagulate during the heating process. The heat disrupts the hydrogen bonds and non-polar hydrophobic interactions. The bonds are disrupted by increasing the kinetic energy and causing the molecules to vibrate so rapidly and violently. Researchers have observed that single amino acid digestibilities, especially for aspartic acid and cysteine, which are known to be heat-sensitive, revealed a disproportionate reduction when tested in the commercially processed food compared to when tested alone. Protein that is exposed to hot temperatures, shrinks and loses moisture. This usually occurs at temperatures between 160 and 185 degrees Fahrenheit. When animal sources of protein are cooked slowly, any connective tissues present in the meat are likely to dissolve. Heat does not destroy the protein in food, but it may reduce the overall content

Dextrinisation: The reaction of dry heat on the surface of food which changes starch to dextrin, e.g. toast. Gelatinisation: The process of thickening which takes place when a mixture of starch and liquid is heated.

Ways to retain nutrients while cooking

Prolonged exposure to water, heat, and light may cause some foods to lose nutritional value like vitamin B1, vitamin C and polyphenols. Here are simple tips which will help you retain nutrients while enjoying your favourite foods. Have a look!

02/11 Rule for washing

Always wash the vegetables first and then chop them. Chopping first and then washing takes away the nutrition of your food.

03/11 Don’t chop small

Do not chop vegetables into very small pieces as most of the nutients will be destroyed when they come in contact with air. The best way is to chop the vegetable into larger chunks.

04/11 Water usage

Cook vegetables in smaller amounts of water. Boiling in too much water damages the nutrients. It is best advised to cook the veggies covered on low flame in their own water.

05/11 Heating your food

Avoid re-heating of food as it destroys the chemical structure of nutrients and vitamins.

06/11 Loss of minerals

As soon as you chop veggies, you should cook them as the vitamins and minerals are secure in their cells as once they are exposed to light and air, the nutrient contents can be destroyed.

07/11 Excess water

Do not throw away the excess water drained after boiling rice or vegetables. The excess water is loaded with nutrients and it can used in preparing gravies, kneading dough or serve it as a refreshment drink.

08/11 Root rules

Root vegetables like potato, ginger, turnip and carrots should be boiled with skins and the peel should be removed after boiling. Boiling with peels helps the nutrients to migrate to the centre of the vegetables which helps in better retention of its nutrients.

09/11 Baking soda

Don't use baking soda when cooking vegetables. Although it helps in retaining color of the vegetables as well as speeds up the cooking process, but destroys the vitamin C content of the veggies.

10/11Fresh food

Eating fresh food is an good idea because the depletion of nutrients could be slowed down. Another reason is the quicker you consume it, the more nutrients can be gained from it. Try eating within 4 hours of cooking your food

Check for aflato

Guidelines to minimize nutrient losses during preparation

WASHING VEGETABLES BEFORE CUTTING

CUTTING VEGETBLES INTO BIG PIECES

PRESSURE COOKING

SOAKING PULSES

DO NOT USE BAKING SODA

DO NOT USE COPPER UTENSILS

1. Choose fresh foods that are not over-ripe, bruised, cut or scraped.
2. Peel thinly or cook inn their skins,jacket
3. Aim at golden brown whenncooking indry heat.
4. Use enough water to cover
5. Cooknthem for the appropriate time
6. Blend starchy flavours with cold water before cooking
7. Stirbthoroughly and continuously over low heat
8. Wash vegetables before cutting. Soaking or washing time should be reduced to minimize nutrient loss.
9. Cut vegetables into big pieces so that exposure of vitamins to water is less while cooking and washing.
10. Use a vegetable peeler to remove skin as it helps remove only a very thin layer of skin.
11. Use minimum water for cooking. Bring the water to boil and add the vegetables to cook.
12. Cook vegetables by steaming and pressure cooking to conserve nutrients.

13. Cover the vessel with a lid while cooking as it hastens cooking.
14. Vegetables salads should be prepared just before serving to conserve nutrients.
15. Use acids such as lime juice or vinegar to salads as it prevents loss of Vitamin C since Vitamin C is stable in acid.
16. Store foods in a cool, dark place.
17. When boiling, add the raw food to the boiling water rather than to cold water.
18. Steaming is a way of cooking with a minimum amount of water.
19. If possible use the cooking water for gravies, sauces or soups as it is a source of water-soluble vitamins and elements (minerals).
20. Cook for the minimum time necessary to make the food palatable and safe.
21. Do not use baking soda to help keep the green colour of vegetables, as this increases loss of vitamin C.
22. Do not use copper utensils. (Copper helps to destroy vitamin C.)
23. Soak whole pulses overnight and other dhals for one hour before cooking.

Safety in preparing and cooking starchy carbohydrates

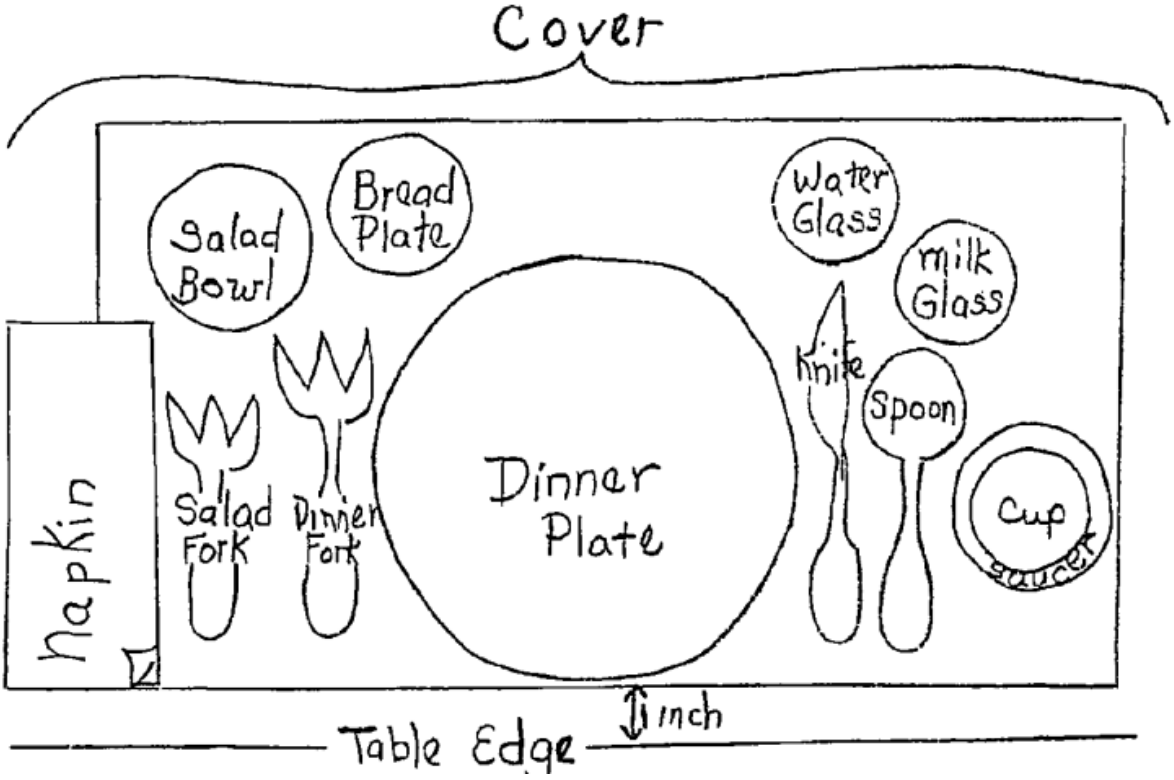
- Choose foods processed for safety. ...
- Cook food thoroughly. ...
- Don’t cook root tubers when they have any green, damaged ir sprouting bits
- Check aflatoxins in cereals or grains before cooking
- Eat cooked foods immediately. ...
- Store cooked foods carefully. ...
- Reheat cooked foods thoroughly. ...
- Avoid contact between raw foods and cooked foods. ...
- Wash hands repeatedly. ...
- Keep all kitchen surfaces meticulously clean.
-

Explain four factors to consider when setting a table.

- The number of people taking the meal as this determine the number of covers to be laid.
- The meal to be served as this ensures that all the tableware is available.
- Number of courses/dishes as this enables one to set the cover for the courses.
- Tableware as this determines their placement.
- Type of meal service as each type has its own way of laying the table.
- The type of dinners determines the way of table setting e.g. ages, special needs.
- A center piece should be available for beauty/enhance appetite.
- Provide adequate space to avoid overcrowding for comfort.
- Ensure the room is clean for hygiene.
- The table cloth should be well laundered for neatness.
- Table appointments should be clean for hygiene/enhance appetite

Essentials for table setting

place setting for one person is a "cover." 2. The plate, flatware and placemat should be 1-1/2" from the table edge to allow for an attractive table and safety. 3. Flatware is placed in order of use from the outside in. 4. The napkin should be folded in a square or rectangle and placed so that the open edge is toward the plate. 5. Allow 20-24 inches for each place setting or cover. 6. Use only flatware and plates that are necessary for the specific meal. 7. Table cloth - the center fold should fall exactly on the center line of the table. The cloth then drops evenly on both sides. The cloth should hang over the table no more than 10-12 inches. 8. Tables should be set according to these principles; art, common sense, concern for comfort for those eating and courtesy. 9. A good centerpiece is: - in scale with the table - is low so people opposite each other can see across the table - can be placed anywhere on table as long as table looks well-balanced - can be part of the meal (salad, fruit bowl, dessert, etc.)



- Information
- AI Chat

Mealsfor special groups and occasion

Used in meal planning

Course
Nutrition and dietetics (DND 2204)
36 documents

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Preview text

MEAL PLANNING FOR VARIOUS GROUPS AND SPECIAL OCCASIONS

Unit objectives

By the end of this unit, the learner should be able to: 1. Identify the various groups of individual with different nutritional needs 2. Describe on how to prepare and serve meals to meet their recommended allowance individually 3. Explain the need for the nutritional requirement in the lifespan and occupation 8 Introduction

A nutritious and wholesome balanced diet is a key to good health. A well-balanced diet includes eating the right amount of foods from the five main food groups. Most people will have three main meals a day. No single food contains all nutrients the body needs so it is important to eat a wide variety. The right amount of different nutrients can increase life expectancy by keeping the heart and body healthy, and preventing many long-term illnesses. Body weight can be kept to an acceptable level through healthy eating, leading to a fitter and more active lifestyle. Nutrition is one of the factors that contributes to the wellness of an individual. A balanced diet, when planned

carefully, provides adequate energy and nutrients for growth, health maintenance, disease prevention and therefore it is essential for our whole lifespan. There is a number of factors to be considered when planning meals.

Factors to be considered in meal planning for different categories

Figure 1: Factors to be considered in meal planning for different categories

Different examples of occasions are Fiesta, birthday, weddings, anniversaries, Christmas, Mother's day, Father's day, Baptismale.t. It important to plan meals for different occasions success of occasion depends on how well it is planned- from the decors, house arrangement and the food that must be specially chosen, prepared and served Foods, techniques and equipment

C. Kitchen equipment must be safe and reliable if it is to be used to prepare and serve food for special occasions. Remember that: ϖ facilities must be appropriate for the number of guests being served ϖ if the celebration is to be held at a venue away from home, the host or caterer must consider what equipment and facilities are available ϖ cutlery, plates and storage space in refrigerators, freezers, cupboards and benches must be organised before the event to avoid any last-minute shortages ϖ kitchen equipment such as hand mixers, microwave ovens, blenders and stoves must be tested and checked before the event to detect any faulty equipment ϖ only equipment that saves time should be used the preparation and cleaning of some equipment outweighs its value ϖ oven, refrigerator and freezer temperatures must be tested to see that they are suitable for keeping food safe and so preventing any risk of food poisoning ϖ equipment should be cleaned before and after use to ensure proper hygiene stored equipment can often attract insects, rodents and cockroaches ϖ there must be enough serving equipment such as spoons, forks and tongs-when people swap serving utensils, cross-contamination can easily occur. Small- and large-scale meal preparation ϖ The size of an event can have a great impact on the preparation involved. Planning an event for five or ten people is very different from organising an event for hundreds of guests. ϖ Planning ahead allows the host to organise an appropriate menu according to the information they have on the number of guests attending. This planning is necessary to: - avoid excessive waste of food and money - avoid the embarrassment of running short of food - ensure that the food is the best choice for the event. ϖ When catering for small numbers of guests, it is relatively easy to estimate rough quantities of food. When catering for large numbers of guests, a rough guess or estimate is not suitable. Every caterer follows a set of guidelines. A host must consider the factors listed when planning a menu. Consideration to consider in planning meals for special occasions

1. Factors to consider in meal planning a. Food Budget - refers to the amount of money needed for the food to be prepared. It should be prepared ahead of time b. Tools, Facilities and Equipment- menu you have planned can only be prepared if you have the needed tools, facilities and equipment c. Time and Energy Available ♣ plan meals which will make reasonable demand on time and energy ♣ to save time and energy it is advisable to plan dishes you are familiar with and that you have skills and ability in preparing them. ♣ plan cooking dishes which do not use the same equipment since it takes time for one dish to be cooked ♣ plan dishes that will not require last minute attention
2. Food Preferences of Guests - consider what dishes would the guests love to eat and what popular and special in a given culture or regions. Consider special nutritional needs
3. Goals in Preparing Meals for special occasions ♣ it is important to set goals that will not only satisfy the palate but also promote health and wellbeing of every guest. ♣ the meal should be nutritionally adequate, economically feasible, aesthetically satisfying, palatable and hygienically prepared
4. Nutritionally adequate ♣ means the meal has enough nutrients to make the body healthy. ♣ It contains all nutrients needed by the body like carbohydrates, fats, proteins, vitamins, and minerals. ♣ Use the Three Basic Food Groups as guide
5. Economically feasible ♣ Food budget is enough to meet the food expenditures ♣ food budget should be reasonable and affordable
6. Aesthetically satisfying ♣ every dish is pleasing, deliciously inviting and satisfying ♣ it should appeal to the senses and to the appetite. ♥ There should be a variety of color

The calorific requirement is generally higher in men than in women because men have larger body size, and they are more physically active and have more lean muscle mass. 8.1 Age groups i. Infants ¬ breast feeding is the safest and most desirable method of nourishment ¬ Human milk is considered the ideal starting food, with most of the nutritional requirements. ¬ However breast feeding should not be relied on exclusively for optional nutrition beyond the sixth mouth of the infant's life. For twins, optimum is 3-4 months.

o Interval of feeding: ¬ Breast feeding should be started as soon as possible after birth if a mother and a baby are okay. ¬ A baby should be allowed to feed on demand and may suckle 12-15 times/day. However a common routine is that of 10-15 times during the day. ¬ After such feed a baby should be burped to remove the air swallowed together with milk by allowing the baby on the mothers' knee or shoulders. ¬ For the first days the baby should be suckle both breast for only a few minutes each time to prevent any nipple sores or cracks. ¬ About 150ml of human milk per kg/body weight the baby is getting enough milk if satisfied at a 12-20 times feeding, falls asleep promptly and sleep quietly for several hours, and also makes satisfactory weight gains from week to week. • Duration of breastfeeding: sufficient until about 6 months of age, should continue for 2 years or even longer. Refer: duration of breast milk • Replacement of breast milk ¬ Is the process of feeding an infant/child who is not receiving any breast milk with a diet that provides all the nutrients a child needs ¬ Introduction of solid foods before the age of 4-6 months is not recommended due to immaturity of gastrointestinal tract and kidneys to handle solid food. After that, solid foods could be introduced gradually and individually. The typical order of introduction begins with cereal, usually iron-fortified ones, vegetables, fruits, eggs and then meat. A

waiting period of 4-5 days before the introduction of another new food is recommended to make sure no allergic reaction or intolerance. ¬ It's only recommended when the AFASS criteria can be met. AFASS A -ACCEPTANCE: no barriers replacement feeding ¬ Barriers can be cultural, social and also due to fear of stigma and discrimination F- FEASIBLE: mother or the family has adequate time, knowledge ,skills and other resources to prepare the replacement food and feed the infant up to 12 times in 24 hours A- AFFORDABLE: Mother, family, community or even the health system support can pay for the cost of purchasing, preparing and using replacement feeding without compromising the health and nutrition of the entire family. S- SUSTAINABILITY: there should be an availability of a continuous and un-interrupted supply of all ingredients and products needed for safe replacement feeding for as long as infant needs it. S- SAFE: replacement foods are correctly and hygienically prepared, stored and fed in nutritionally adequate qualities with clean hands and using clean utensils preferably a cup. Example 1: whole liquid milk • Boil to kill all harmful bacteria and alters protein of the milk to produce a softer consistency when curd is formed and be easier to digest. • 150ml/ 1 day cow's milk per kg body weight, is suitable for a healthy infant: • 1 st week after birth a half strength; Birth wt. 3: volume = (3 ml), at a feed of 6 times per a day; = 525/6 = 88 ml. This is diluted as 44ml water, 44ml milk and one teaspoon sugar to raise calories content. 8 Commercial formula Feeding the preterm ¬ Preterm infants is born with poorly developed muscle tissue, very little body fat and inadequate mineralized skeleton. ¬ Regulation of the body temperature is difficult because of the very high surface area and incomplete development of the sweat glands.

laxatives, diet drugs or purging. This can lead to serious health problems, nutrient deficiencies and eating disorders in later life iv. Adults ¬ Growth is usually completed by the age of 25 years. The aims of nutrition during adult years are to obtain adequate energy and nutrients to maintain a healthy body weight and prevention of chronic diseases through appropriate food choices. ¬ Adulthood is a period when an individual begins to experience and cope with numerous changes in the realms of work, family and education. Healthy eating and lifestyle are important for them to cope with stress and maintain health. ¬ The calorific requirement begins to decrease after the age of 25 years as basal metabolic rates decrease. People during adult years may not get as much exercise as they did in earlier years. Thus, when appetite and food intake do not decrease, there is a common tendency toward weight gain during this period. ¬ An intake of 3,500 calories more than the body needs for maintenance and activities will result in a weight gain of 500 grams fat. A person who overeats by only 120 calories a day (equal to a can of soft drink) can gain 6

kilograms in 1 year. Therefore, it is important to reach energy balance to maintain a healthy weight (i. energy intake equals energy output). ¬ This can be achieved by eating less energy-dense foods, and increasing physical activities as exercise will increase the number of calories burned. Healthy eating and lifestyle are encouraged during adult years to maintain health and prevention of chronic diseases v. Elderly ¬ Physiological, psychosocial and economic changes of the elderly affect their nutrition status. The body's function changes with age. Metabolic rate slows down, bones become less dense and lean muscle mass is reduced. Eye-sight,hearing, taste and smell are less acute and poor dentition is common. ¬ The secretion of digestive enzymes and hydrochloric acid is diminished which in turn impairs digestion and absorption of nutrients such as vitamin B12. The reduced muscle tone of the intestine may result in constipation in an elderly. ¬ The loss of spouse or close friends, physical disabilities, poor health, feeling of loneliness and uselessness may diminish an elderly's ability to shop, cook and also his/her appetite to eat.

¬ Retirement of the elderly results in decreased income and this may affect one's choice of food. Some may choose foods by cost rather than nutrient content. ¬ As a result of reduced metabolic rate and physical activity, the calorific requirement of an elderly decreases. However, their nutritional needs are quite similar as in adult years. The need for iron decrease after menopause. Some nutrient requirements such as vitamin D and calcium increase in elderly. vi. Occupation Occupational activity of an adult affects energy and nutrient requirements and this should be noted when planning meals. 8.2 Health Concerns and Special Dietary Needs Some people have special dietary needs and precautions that need to be taken in meal planning regarding the types of food to be taken or avoided. Climate factors ¬ We need energy to maintain our body temperature. The climate will affect our energy output. In winter, we need more energy to keep us warm than in summer. An increase in food intake increases the metabolic rate, which helps generate heat and fat stores that provide insulation to reduce heat loss. ¬ In hot weather, increase fluid intake is important to compensate loss of water and electrolyte through sweating. Light meals such as sushi, salad, sandwich and juice can be served in hot weather while hot dishes and drinks should be served in cold weather to keep the body warm. ¬ Time of the year is another factor to be considered during meal planning. Some foods are only available in particular seasons e.g teen, and durian are summer fruits while green sprouts, sweet yam, watercress are winter vegetables. Foods in season are fresh and relatively cheaper to buy, and they are at their best in terms of the taste and nutritional value. 8 Planning meals 8.2 Planning meals for different age groups a) Children ¬ Children should have a varied and balanced diet with foods from the 5 food groups (grains, fruits & vegetables, meats, dairy products, fats & sweets). Main energy source should come

¬ Fast food is popular among adolescents and they are high in fat, sodium and calories while containing limited amounts of vitamins, minerals and fiber. Excessive consumption of fast food and unhealthy snacks can lead to an increase in fat, sodium and calorific intake. This increases the chances of developing obesity and chronic disease in the adult years. ¬ Eating too much of these foods may affect the appetite of main meals and can lead to a deficiency of essential nutrients. d) Adults ¬ Meal planning for adults should be based on the food pyramid, including large amount of calcium and dietary fiber, adequate amounts of carbohydrates and protein, small amounts of fats, sugar and salt. ¬ Three meals a day is enough for adults; additional snacks can be considered as dietary supplements. Adults are recommended to choose dishes with low fat cooking methods, such as steaming, boiling and grilling, when eating out or cooking at home. ¬ Besides, the ratio of 3:2:1 for cereals, vegetables and meat could be used as a reference for portions. Adults should try to limit the intake of fried foods, sauce and sugary drinks and choose healthy and low fat snacks such as low fat yoghurt, fruits, low sugar soy bean milk, etc. ¬ In a balanced diet, a large proportion of energy should come from cereals/grains. Choose unrefined or whole grain products to increase the intake of minerals and fiber. Adequate protein-rich foods, such as lean meat, fish, poultry and bean products, are necessary to repair body tissue, production of enzymes and antibodies. ¬ Calcium and vitamin D rich foods are essential for strong bones. Bone loss begins at about the age of 35 years, a diet rich in calcium and vitamin D could reduce the risk of osteoporosis in later life. ¬ Adequate folate intake is important for adult women before pregnancy to prevent neural tube defects in infant. The iron requirement is high

for women throughout the childbearing years to replace blood loss during menstruation. ¬ Fruits and vegetables are important source of vitamins (A, C, folate), minerals (potassium), phytochemicals, and fiber. A diet high in fruits and vegetables are associated with lower risk of chronic diseases.

• For manual workers, meals should be a balanced diet rich in carbohydrates such as rice, noodles and pasta or bread to provide enough energy to work. Manual work increases sweating which in turn increases the loss of water and electrolytes. It is essential to increase fluid intake (water, juice, soup) to regulate body temperature and avoid dehydration. • People with a sedentary lifestyle e. office workers, require to pay attention to energy balance to maintain a healthy body weight. Reduced physical activity together with an excessive energy intake from a large portion of energy-dense foods such as fast food, snacks increase the risk of obesity and other chronic disease in later life. • The modern busy lifestyle has made fast food become popular because it is convenient and time-saving. High consumption of food in restaurants and fast food shops result in higher intake of fat, trans-fat, salt and sugar while the intake in fruits and vegetables is low. • Meals for office workers should be rich in nutrients but low in energy. It is recommended to include more vegetables and fruits as they are rich in dietary fiber and low in calories, instead of energy dense snacks such as ice-cream, chocolates and chips. They are also rich in vitamins, minerals and phytochemicals that are beneficial to health and may help to prevent chronic diseases. • Higher fiber diet is also more filling and helps to prevent constipation. Energy-dense foods and alcohol should be eaten in moderation only. e) Elderly ¬ A balanced nutrient-dense diet is essential for maintaining good health of the elderly. Good nutritional status can help to prevent chronic disease and speed up recovery from illness, surgery or broken bones. ¬ An elderly's diet should include varied choices of food with most of the calories from carbohydrates, moderate in protein while low in fat, salt and sugar. ¬ Adequate protein is essential for tissue repairing, synthesis of immune cells and hormones. Lean meat or poultry without skin and low fat dairy products are good protein choices. ¬ Elderly are also encouraged to have adequate fruits, vegetables, whole grains products and legumes. These foods are rich source of vitamins, minerals and fiber. Adequate fiber and fluid can help to prevent constipation.

¬ Foods for breakfast should include enough carbohydrates (noodles, whole meal bread, breakfast cereals, and congee) and moderate protein foods (lean meat, milk and dairy products, eggs). ¬ Lunch and dinner choices can follow the principles of healthy eating with cereals or cereal products as major food, moderate amount of fish, seafood, legumes, egg and lean meat. It is advised to prepare foods with low fat cooking methods such as steaming, boiling, stewing, grilling and stir-frying with little oil. Chinese family dinner usually consists of 2-3 dishes that are shared by family members, whereas western style dinner usually includes soup, appetizer, main dish, dessert and/or a drink that are served on an individual basis. ¬ Healthy snacks such as low fat dairy products, sandwich, fruits, whole meal biscuits, chestnuts, sweet corn can supplement main meals for those with additional nutrition needs and small appetite. 8 Meal planning for special occasions/celebrations; such as social gatherings, parties and festivals should take into consideration of the occasion, venue, age and number of guests, style of meal (sit down or buffet type, Chinese or Western meal) and special food if necessary. ¬ Prepare appropriate tableware, napkins, tablecloth and home decorations (flowers or other ornaments), seats and tables for celebrations or parties. ¬ Background of guests, their age, gender, total number, food preference, nutritional needs and special ethnic or religion are factors for consideration when planning meals. ¬ A good meal should be nutritious, well cooked with careful combination of foods and flavors. For example, food for a birthday party for school-age children should be colorful, attractive, and easy to manage, in bite size, small packs and include more body building foods for growth. ¬ Dishes can be prepared using different methods (e. grilling, baking, boiling) to give various texture (e. soft, firm, crispy) and served either hot or cold. ¬ Special food can be prepared for special occasions or festivals e. birthday cake for birthday party; Easter chocolate eggs for Easter festival, Chinese turnip cake for Chinese New Year etc. ¬ It is also advised to shop and plan for food in advance to allow changes of food in the menu if they are not available.

Meals for outing; should be well planned and prepared. Depending on the duration of the outing, the meal should provide enough nutrients and energy to sustain daily activities as that from a

main meal. ¬ It should be well-balanced by choosing foods from the three basic food groups and to include a suitable drink. ¬ Choose foods that are easy to eat, pack and carry, and can be kept for a longer time such as bread, fruits, packed drinks or canned foods. ¬ Use thermal containers with insulation or spaces for ice packs to keep food/drinks at a safe temperature to avoid bacterial growth. ¬ Food can be packed in a plastic box for easy transport to avoid crushing/ damage.

Commonly used equipment in enteral feeding and parenteral
Nutrition and dieteticsNone