Unit 1

INTRODUCTION TO FOOD

Food is considered as a prime necessity for living beings especially for humans. It supplies energy for activities, maintain and repair tissues and gives protection from diseases. Food is a substance, which after ingestion, digestion and absorption is capable of being utilized by the body for its various functions.

In this lesson, the students will be able to:

GL3NNB

- know the evolution of food
- define the term Food
- explain the functions of food and their food groups
- learn about the food pyramid and Eatwell plate
- understand balanced diet
- know the objectives of cooking
- describe the methods of cooking

Evolution of Food

1.1 Evolution of Food:

Some of our knowledge of what early man ate comes from archaeological studies of cave drawings of food gathering and preparation activities. primitive men collected their food from wild animals and plants. They depended upon fruits, nuts, roots and other plant foods, meat from animals and fish from seas, lakes and rivers. They were forced to spend their days and nights in search of food. They roamed from place to place to correspond the changing season, the appearance and disappearance of various fruits and leaves, or the migration and movement of game animals. They lived as hunters and gatherers. In this way they lived till 10000 years ago in a few places and 5000 years ago in most places of the world.

Gradually food gatherers learned to domesticate plants and animals. One of the first great changes which occurred in man's food pattern must have been when he learnt to use fire to cook. They settled down, build shelters and raised plants and animals to provide food. The first crop to be grown were wheat and barley from wild grasses. Milk was probably the first food to be extracted from animals. Man eats most of his food cooked and this is one of the many characteristics which separate him from other animals. The development of agricultural skills over the last two centuries and consequent supply of a sufficient amount of food, its preservation and storage, resulted in the emergence of cities and urban civilization.

Today in our diet, traditional foods are being replaced by fast foods. Traditional foods are nutrient rich, does not contain any artificial colouring, flavours or preservatives. Whereas fast foods contain all these things. In addition, food insecurity and nutrition insecurity are challenging public health in the present trend.

Definition

The term 'food' refers to what we eat and which nourishes the body. It includes solids, semi-solids and liquids. so, two important features for any item to be called food are:

- It should be worth eating, that is, it should be 'edible'.
- It must nourish the body.

1.2 Functions of food

Food is important for life. To be healthy and active, we should certainly have enough food. The food we eat should be safe and rich in all the nutrients for our body needs. We should choose from a wide variety of foods and we should eat them regularly, every day. Do not forget that we should also enjoy the food that we eat; it should look, smell and taste good. Without good nutrition, children and young people cannot develop their potential to the full and adults will have difficulty in doing their best.

Food provides our body with what they need to

- Stay alive, be active, move and work
- Build new cells and tissues for growth;
- Stay healthy and heal themselves;
- Prevent and fight infections.

Foods are classified according to their functions in the body. The functions of food can be broadly classified into three main categories

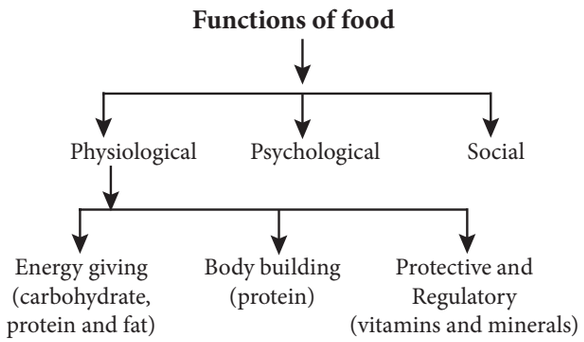


Fig 1.1: Functions of food

1.2. 1 Physiological functions of food

The physiological functions of food can be further sub-divided as follows:

a. Energy giving

b. Body building

c. Protective and Regulatory

a) Energy giving

This group includes foods rich in carbohydrate, fats and proteins. Energy is defined in terms of kilo calories and thus one gram of carbohydrate gives 4 kcal, one gram of protein gives 4 kcal, while one gram of fat gives 9 kcal. This group may be broadly divided into two groups:

- Cereals, pulses, nuts and oilseeds, roots and tubers.
- Simple carbohydrates like sugars, fats and oils.

In addition to energy cereals provide large amounts of protein, minerals and vitamins in the diet. Pulses also give protein and B vitamins besides giving energy to the body. Nuts and oilseeds are rich in energy yielding as they are good sources of fats and proteins. Roots and tubers though mainly provides energy, contribute to some extent to minerals and vitamins.

Simple carbohydrates like sugars provide only energy. Fats and oils provides fat,energy and fat soluble vitamins.

What are empty calories?

Simple carbohydrates like sugars provide only energy (empty calories) and do not provide any other nutrients.

b) Body Building:

The food we eat is a part of us. Thus one of the most important functions of food is that of building the body. They are classified into two groups:

- **Milk, egg, meat and fish:** They are rich in protein of high biological value. These proteins have all essential amino acids in correct proportion for the synthesis of body tissues.
- **Pulses, oilseeds and nuts:** They are rich in protein but may not contain all the essential amino acids required by the human body.

c) Protective and Regulatory function

Foods rich in protein, vitamins and minerals have regulatory functions in the

body eg. maintaining the heart beat, water balance and body temperature. Protective foods are broadly classified into two groups.

- Foods rich in vitamins, minerals and proteins of high biological value eg. milk, egg, fish and liver.
- Foods rich in certain vitamins and minerals only eg. green leafy vegetables and fruits.

1.2.2 Psychological Functions of food

The second major function of food is the psychological function. Food must also satisfy certain emotional needs. These include sense of security, love and attention. Everyone of us belong to a particular culture with its own unique food habits characteristics of that culture and caste.

1.2.3 Social functions of Food

Food and eating has significant social meaning. Food is also a symbol of our social life Sharing food with any other person implies social acceptance. When you share a meal with someone, you are expressing your acceptance of friendship and respect for that person. Food is a medium through which we express our happiness. For example, feasts are given at specific stages of life, such as birth, birthday, marriage etc.

1.3 ICMR Five Food Groups

Foods are grouped together because they provide similar amount of the key nutrients of that food group. To meet the nutrient requirements essential for good health, you need to eat a variety from each of the five food groups daily, in the recommended amount. It is not necessary to eat from each food group at every meal.

It is also important to enjoy a variety of foods within each of the Five food groups because different foods vary in the amount of the key nutrients that it provide. 'Basic Five food group, suggested by ICMR can be used for planning diets.

ACTIVITY - 1

Notes: which activity shown in the picture needs more energy. Why?

Table 1.1 Basic Five Food Groups	
Food groups	**Nutrients**
1.Cereal and products : Rice, Wheat, ragi, maize, bajra, rice flakes, wheat flour, sprouted cereal	Energy, protein, Invisible fat, B vitamins, iron, calcium, fiber
2.Pulses and legumes Bengal gram, black gram, cow pea, peas (dry), soybeans	Protein, energy , invisible fat, thiamine, riboflavin, folic acid, calcium, iron and fibre
3.Milk & Meat products: I) Milk and skimmed milk, cheese, curd II)Chicken, liver, fish, egg and meat	Protein, fat, riboflavin, calcium.
4.Fruits & vegetables : I) Mango, guava, tomato, papaya, orange, sweet lime, watermelon **Green leafy vegetables :** II) Amaranth,spinach, drumstick leaves, coriander leaves, fenugreek leaves **Other vegetables :** Carrot,onion,brinjal,ladiesfinger, beans, capsicum, cauliflower, drumstick	Carotenoids, vitamin C, riboflavin, folic acid, iron, fibre Riboflavin, folic acid, calcium, fibre, iron, carotenoids Carotenoids, folic acid, calcium and fibre
5.Fats & sugars : I) **Fats :**Butter, ghee, groundnut oil, coconut oil, hydrogenated fat, cooking oils II) **Sugar and jaggery**	Energy, Essential fatty acids and fat soluble vitamins Energy and iron

Recently ICMR has prescribed Basic IV food groups, which is given below:

Table 1.2 Basic Four Food Groups	
Food groups	**Nutrients**
1.Cereal Millets and Pulses : ➢ **Cereals and Millets :** Rice, Wheat, ragi, maize, bajra, jowar, rice flakes, Puffed rice. ➢ **Pulses and legumes:** Bengal gram, black gram, cow pea, peas (dry), rajma, soybean.	Energy, protein, Invisible fat, B vitamins, iron, calcium, fiber. Protein, energy , invisible fat, thiamine, riboflavin, folic acid, calcium, iron and fibre.

2.Milk and Animal products: ➢ Milk and skimmed milk , cheese, curd ➢ Chicken, liver, fish, egg and meat	Protein, fat, riboflavin, calcium. Protein, fat and iron.
3. Vegetables and Fruits : **Green leafy vegetables :** ➢Amaranth spinach, gogu, drumstick leaves, coriander leaves, fenugreek leaves. **Other vegetables :** ➢**Vegetables:** Carrot, onion, brinjal, ladies finger, beans, capsicum, cauliflower, drumstick ➢**Fruits:** Mango, guava, tomato, papaya, orange, sweet lime, watermelon.	Riboflavin, folic acid, calcium, fibre, iron, carotenoids. Carotenoids and fibre. Carotenoids, vitamin C, riboflavin, folic acid, iron and fibre.
4.Oils, Fats and Nuts : **Oils And Fats:** Butter, ghee, hydrogenated fat, cooking oil. Sugar and jaggery. Nuts	Energy, Essential fatty acids and fat soluble vitamins. Energy, Jaggery has iron. Protein and omega fatty acids.

Fig 1.2: Food Groups

ACTIVITY - 2

Read the table above showing food groups and fill in three of your favorite foods for each group.

1.4 Food Pyramid

Food pyramid is meant for use by the general healthy population as a guide for the types of foods and its proportion to be included in the daily diet. In order to assist in selecting food items from each food group the food pyramid has been developed.

The food pyramid was introduced in1992 by USDA. It is a valuable tool for planning a health promoting diet.

The Food Pyramid clearly indicates that we should consume food from each of the five food groups to ensure good health. This also tells us to include food items which are at the top of the food pyramid such as fats and sugar in less quantity as compared to cereals and pulses which are at the bottom of the pyramid. Use of food pyramid not only ensures good health but also helps in planning a balanced diet and facilitates selection of alternate foods.

1.5 The Eatwell Plate

The Eatwell plate is a pictorial food guide showing the proportion and types of foods that are needed to make up a healthy, varied and balanced diet. The plate has been produced by the Food Standards

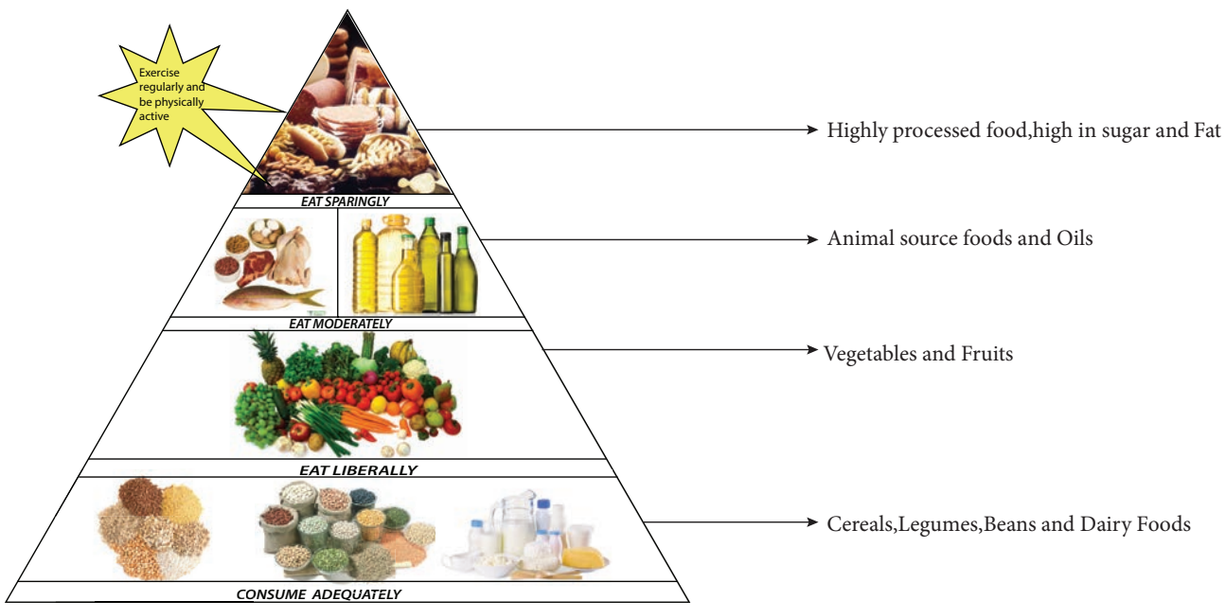


Fig 1.3: Food Guide Pyramid

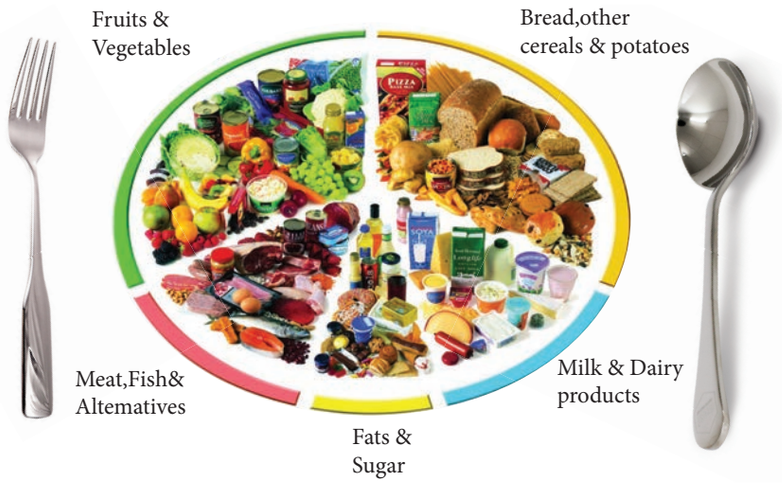


Fig 1.4: Eatwell plate

Agency as a guide that aims to help people to understand and enjoy healthy eating. The Eatwell plate.

Eight Tips for Eating Well

1. Base your meals on starchy foods.
2. Eat lots of fruit and vegetables.
3. Eat more fish.
4. Cut down on saturated fat and sugar.
5. Try to eat less salt
6. Get active and maintain a healthy weight.
7. Drink plenty of water.
8. Don't skip breakfast.

Food from the largest group should be eaten most often and food from the smallest group should be eaten occasionally. The guide is shaped like a dinner plate which has been designed to make healthy eating simpler to understand and interpret.

People should be encouraged to choose a variety of foods from the four largest groups every day to ensure that they obtain the wide range of nutrients their bodies need to grow, develop and function properly and stay healthy.

1.6 Balanced diet

Being familiar with the food groups, let us learn about balanced diet. In a meal, if we include food items from all the five food groups then our body will be able to get all the nutrients collectively.

A balanced diet is one which contains different types of foods in such quantities that the individual's need for the various nutrients is adequately met, and some amounts of nutrients are stored in the body to withstand short periods of low dietary intake.

Fig 1.5: Balanced diet

ACTIVITY - 3

Assess your family meals using the food pyramid to find out whether your meals are balanced or not. Do you realize how much effort your parents make to serve balanced meals to the family? For every meal they plan, purchase, prepare and cook, they try to include most of the food groups.

Fig 1.5

Fig 1.6

If you see the contents of each food in fig1.5 and 1.6 you will observe that a traditional Indian meal includes food items from most of the food groups. This is the result of collective wisdom of our society and we should adhere to it. Mention the names of food

1) South Indian foods

_____

_____

_____

_____

2) North Indian foods

_____

_____

_____

_____

1.7 Cooking

Food preparation helps in combining food ingredients in various ways with delicate flavours, textures and colour which apply to the senses. Food has to be pleasing in appearance and taste so that it is consumed. Understanding food behavior in scientific terms helps in choosing best method of cooking. Food preparation is an important step in meeting the nutritional needs of the family.

Foods like fruits, vegetables and nuts are eaten raw but most of the foods are cooked to bring about desirable changes. The process of subjecting foods to the action of heat is termed as "**Cooking**". Heat is transferred to food during cooking by conduction, convection, radiation or microwave energy. Cooking takes place by moist and dry heat. Moist heat involves water and steam. Air or fat is used in dry heat.

Cooking can be defined as the transfer of energy from one source to another. This energy alter the foods molecular structure, changing its texture, flavour, aroma and appearance and thus making it safe to consume.

1.7.1 Objectives of cooking

- Improves the taste and food quality
- Destruction of micro-organisms
- Improves digestibility
- Increases variety
- Increases availability of nutrients
- Increases antioxidant value
- Concentrates nutrients
- Removes pesticide residues
- Removes natural toxins

1.7.2 Classification of Cooking Methods

The methods of cooking are classified as given in **table 1.1**

1.7.2 a Moist Heat Method

In this method, food comes in contact with moisture either by water or steam under pressure. Some common ways of cooking food by moist heat are described below.

ACTIVITY - 4

Water soluble nutrients present in food dissolve in water in which the food is boiled. If you throw this water, nutrients will be lost. Suggest some useful ways for the utilisation of the stock.

_____

_____

_____

_____

Table 1.1 Methods of Cooking

Moist Heat Method	Dry Heat Method	Combination Method
Boiling	Roasting	Braising
Stewing	Grilling	
Steaming	Toasting	
Pressure Cooking	Baking	
Poaching	Sauteing	
Blanching	Frying	

1. Boiling

Boiling is cooking foods in a liquid (water, bouillon, stock, milk) at boiling point. **"Boiling"** is a method of cooking foods by just immersing them in water at 100 ^{0}C and maintaining water at the temperature till food is tender. Rice, egg, dhal, meat, roots and tubers are cooked by boiling method.

Advantages

- Boiling is a safe and simple method of cooking.
- It is suitable for large scale cooking. Boiled food is also digested easily

Disadvantages

- While boiling, water soluble nutrients are lost if the water in which the food is boiled is discarded. Some people may not like boiled food as they find it bland.

2. Stewing

When food is cooked with the heat from water vapors, it is called **"Stewing"**. This method requires the food to be cooked in steam. Stewing is a long and slow cooking method where food is cut into pieces and cooked in the minimum amount of liquid, water, stock or sauce. The food and the cooking liquid are served together. In this slow method of cooking the liquid is heated to boiling point and heat is reduced to maintain simmering temperatures (82 ^{0}C – 90 ^{0}C).

Advantages

- In stewing, the juices of the food are retained and the food tastes good.
- The nutrients are also conserved better.

Disadvantages

- Food takes longer to cook.
- The process is time consuming and there is wastage of fuel.

3. Steaming:

It is a method of cooking food in steam generated vigorously from boiling water in a pan. The food to be steamed is placed in a container and is not in direct contact with the water or liquid. Idli, custard and idiappam are made by steaming. Vegetables can also be steamed.

Advantages

- Steaming shortens the duration of cooking and helps to conserve nutritive value, colour, flavour and palatability of food.
- Steamed food is light, nutritious and easy to digest. Such foods are good, especially for people who are sick or people with weak digestion or for the elderly. Young children can be served with steamed food.

Disadvantages

- Steaming equipment is required.
- This method is limited to the preparation of selected foods.

4. Pressure cooking :

When steam under pressure is used, the method is known as **"Pressure cooking"** and the equipment used is the pressure cooker. In this method the temperature of boiling water can be raised above 100 ^{0}C. Rice, meat, roots and tubers are usually pressure cooked.

Advantages

- Pressure cooking kills all bacteria and hence the food is safe and hygienic to eat.
- The food gets cooked faster i.e. almost 1/3rd time than boiling.
- Saves fuel, time and energy.
- Several foods can be cooked together in the pressure cooker by using separators.
- It is not necessary to immerse food in water while cooking and this reduces the loss of water soluble vitamins and minerals.

Disadvantages

- If food is cooked for very long, it loses its texture and may even burn.
- Knowledge of the usage, care and maintenance of cooker is required to prevent accidents.
- Careful watch on the cooking time is required to prevent over cooking.

ACTIVITY - 5

Your friend's family loves to eat boiled rice and dhal. Rice has to be boiled with lots of water and the extra water is thrown away.

- Is this way of wasting water right or wrong? Explain why?
- How can this problem be solved?

5. Poaching:

This involves cooking in minimum amount of liquid at temperatures of 80°C – 85°C that is below the boiling point. Foods generally poached are egg, fish and fruits. For poaching eggs, the addition of little salt or vinegar to the cooking liquid lowers temperature of coagulation. Eggs get cooked quickly by poaching.

Advantages

- A variety of liquids can be used (stock, wine, milk, syrup).
- Liquid can improve flavor.
- Food becomes more digestible.
- Ideal for high-protein foods, eg. fish

Disadvantages

- Requires constant attention.
- Range of suitable foods is limited.
- Food overcook quickly.

6. Blanching:

In meal preparation, it is often necessary only to peel off the skin of fruits and vegetables without making them tender. This can be achieved by blanching. eg. tomatoes can be blanched in this method, food is dipped in boiling water for 5 seconds to 2 minutes depending on the texture of the food. This helps to remove the skin or peel without softening the food.

Advantages

- Peels can easily be removed to improve digestibility.
- Destroys enzymes that bring about spoilage.
- Texture can be maintained while improving the colour and flavour of food.

Disadvantage

- Loss of nutrients if cooking water is discarded.

1.7.2. b. DRY HEAT METHOD

Dry heat cooking gives a crisp texture, brown colour and pleasant flavor to the foods. Some common ways by which you cook food by dry heat are described here.

1. Roasting:

This method of cooking food by dry heat is **roasting**. While roasting, the food is subjected directly on a hot tava, girdle, sand or fire and cooked. Eg. Groundnuts

Advantages

- Food is tastier when cooked in this way. It also adds variety to a meal.
- It improves the appearance, flavor and texture of the food.
- Spices are easily powdered if they are first roasted.

Disadvantages

- It is a relatively slow method of cooking. Roasted food sometimes become too dry, therefore, it may be served with a chutney or sauce.
- Roasting denatures proteins reducing their availability.

2. Grilling:

Grilling or broiling refers to the cooking of food by exposing it to direct heat. In this method food is placed above or in between a red hot surface. Papads, corn, phulkas, chicken can be prepared by this method.

Advantages

- Like roasting, grilling also gives nice flavour to the food.
- A variety of dishes can be prepared using this method.

Disadvantage

- Constant attention is required to prevent charring.

Tips for healthy grilling:

1. Grill up fruit for dessert
2. Grill your vegetables.
3. Use gas rather than charcoal.
4. Marinate your meat.
5. Substitute grilled fish for meet./

3. Toasting:

This is a method where food is kept between two heated elements to facilitate browning on both sides. Bread slices are cooked by toasting.Eg. sandwiches.

Advantages

- Easy and quick method.
- Flavour improved.

Disadvantages

- Special equipment is required.
- Careful monitoring is needed to prevent charring.

4. Baking:

In this method, the food gets cooked in an oven or oven like appliance by dry heat. The temperature range maintained in an oven is 120 ^{0}C - 260 ^{0}C. The oven has to be heated slightly more than required temperature before placing the food in it. Foods prepared by baking are custards, pies, biscuits, pizzas, buns, bread and cakes. The same principle is used in tandoor ovens were you get tandoori chicken, tandoori meat and fish.

Advantages

- Food cooked using this method adds a variety to the texture in our plate.
- Baking lends a unique flavor to foods.
- Foods become light and fluffy. Eg. cakes, custards, bread.
- Certain foods can be prepared only by this method – bread, cakes.
- Uniform and bulk cooking can be achieved. Eg. Bun, bread.
- Variety of dishes can be prepared.

Disadvantages

- Special equipment like oven is required.
- Baking skills are necessary to obtain a product with ideal texture, flavor and colour.

ACTIVITY - 6

List some baked products.

_____

_____

5.Sauteing:

This method involves cooking in just enough of oil to cover the base of the pan (greasing the pan).The food is tossed occasionally or turned over with a spatula to enable all the pieces to come in contact with the oil and get cooked evenly. Sometimes the pan is covered with lid, reducing the flame and allowing the food to be cooked till tender in its own steam. The product obtained by this method is slightly moist, tender but without any liquid or gravy. Foods cooked by sautéing are generally vegetables used as side dishes in a menu. Eg. poriyels in Indian cuisine.The heat is transferred to the food mainly by conduction.

Advantages

- Takes less time.
- Simple technique.
- Minimum oil is used.

Disadvantage

- Constant attention is needed as there is chance of scorching or burning

Some precautions while frying food

(i) Food should be cut into even sized pieces to ensure even cooking

(ii) The ghee or oil should be heated well and then the flame or heat should be reduced a little

(iii) A few pieces of food should be fried at a time as adding a lot of food may lower the temperature of fat and increase fat absorption

(iv) Fried food should be placed on a clean, absorbent kitchen napkin or brown paper

(v) All the pieces of food should be removed from the oil or ghee to avoid burning of these food pieces and spoiling of the ghee or oil.

6. Frying:

In this method, the food to be cooked is brought into contact with a large amount of hot fat. Frying is of two types namely deep fat frying and shallow fat frying.When food is totally immersed in hot oil, it is called deep fat frying. Samosa, chips, pakoda are examples of deep fat frying. In shallow fat frying, only a little fat is used and the food is turned in order that both the sides turn brown. Eg. Omelets, cutlets, parathas.

Advantages

- The calorific values of fried food is increased since fat is used as the cooking media.
- Frying lends a delicious flavor and attractive appearance to foods.
- Taste and texture are improved.

Disadvantages

- Fried food especially deep fried food is difficult to digest and has high calorific value. Excessive consumption of fried foods are bad for health.
- Can be a risk factor to develop life style diseases.

1.7.2.c. COMBINATION OF COOKING METHODS

Braising

Braising is a combined method of roasting and stewing in a pan with a tight fitting lid. Flavourings and seasonings are added and food is allowed to be cook gently. Food preparations prepared by combination methods are :

Uppuma - Roasting and boiling.

Cutlet - Boiling and deep frying.
Vermicilli payasam - Roasting and simmering.

1.7.3 Other Methods of Cooking

I. Microwave Cooking:

Microwaves are electromagnetic waves of radiant energy with wave lengths in the range of 250 x 10^6 to 7.5 x 10^9 Angstroms. It is a comparatively new method of cooking and gradually becoming popular. In this method food is cooked by microwave radiation. Water molecules in the food vibrate rapidly due to microwaves. The heat generated in the process cooks the food.

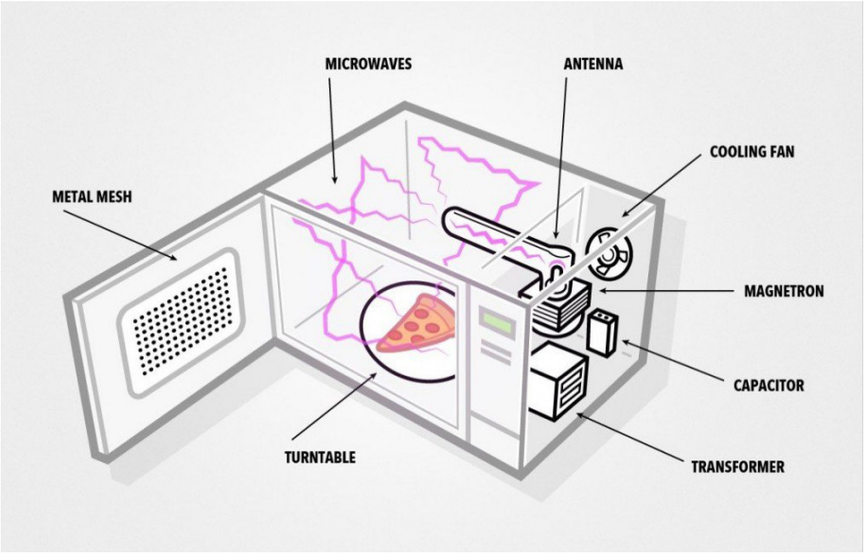


Fig 1.6: Microwave Oven

Advantages:

- It is a quick method of cooking.
- Cooking time is reduced significantly as compared to other methods of cooking.

Disadvantages

- It uses electrical energy and therefore may not be useful in places where continuous electricity supply is not available.
- It may dry up the food products.

Precaution while using a microwave oven: Remember to open a microwave oven a few seconds after it has stopped. This will decrease your exposure to radiation

ACTIVITY - 7

Debate on the pros and cons of olden traditional method of cooking using fire wood and todays modern methods of cooking.

II. Solar Cooking:

A solar cooker is a device that changes the light energy of the sun to heat energy to cook food. There are three main types of solar cooker:

1. Panel-type

A hybrid of reflector and box-type solar cookers, using both a curved reflector and a cooking container into which the food is placed. This combines the reflective properties of a curved surface with the heat retaining properties of a container.

2. Parabolic type

A solar cooker that uses reflective surfaces to collect, concentrate and direct the sun's rays onto the food being cooked.

3. Box-type or oven-type

A solar cooker that uses plane reflectors (such as mirrors) to reflect radiation through a glass or plastic window into an insulated cooking container. The container normally has reflective sides and a black metal base.

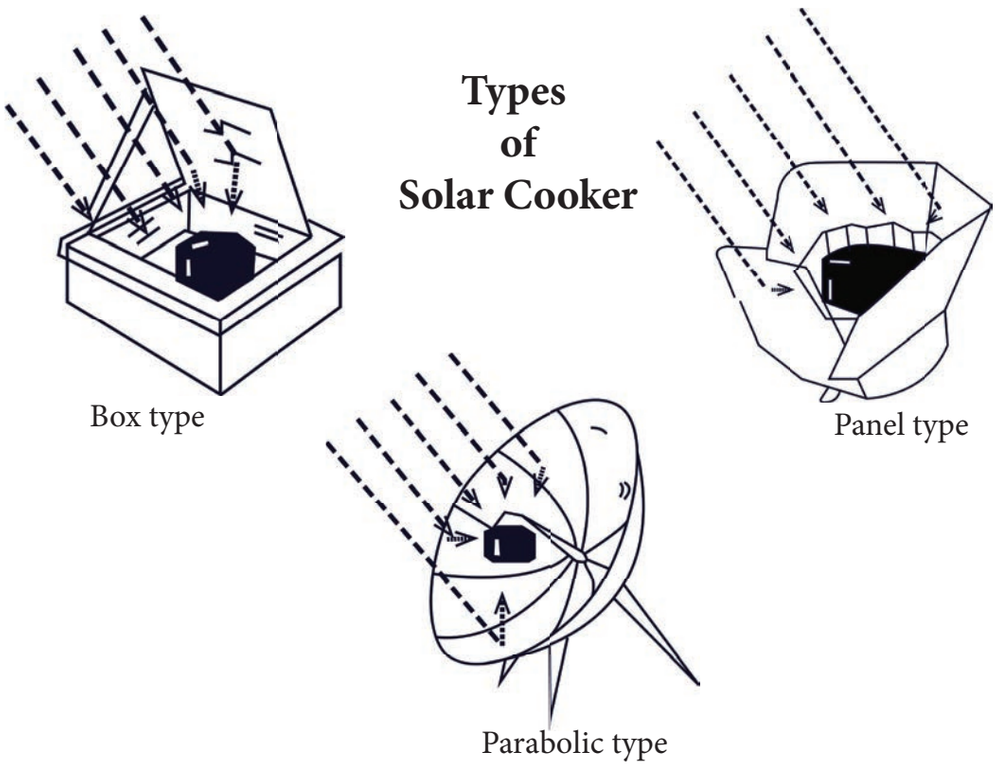


Fig.1.7: Types of Solar Cookers

Advantages

- A solar cooker does not produce smoke. It has low maintenance and practically no running cost.
- It is an environment friendly method of cooking food.
- Solar cooking can be successfully done in many parts of India.

Disadvantages

- Solar cooker is used only in outdoor and works only when there is enough sunshine.
- Slow cooking process.
- Cannot be used in the absence of sunlight as in rainy seasons, late evenings and nights.

Summary

- The term 'food' refers to anything that we eat and which nourishes the body. It includes solids, semi-solids and liquids.
- Food pyramid is meant for use by the general healthy population as a guide for the types of foods and its proportion to be included in the daily diet.
- The Eat well plate is a pictorial food guide showing the proportion and types of foods that are needed to make up a healthy, varied and balanced diet.
- Microwaves are electromagnetic waves of radiant energy with wave lengths in the range of 250 x 106 to 7.5 x 109 Angstroms.
- Solar cooking is a very simple technique that makes use of sunlight or solar energy which is a non-conventional source of energy.
- Solar cooker is classified in to three different kinds box cookers, panel cookers and parabolic cookers.

Glossary

Saturated	Containing the largest possible amount of a particular solute
Conduction	The process by which heat or electricity is transmitted through a substance
Convection	The process by which heat travels through air, water and other gases
Radiation	The emission of energy as electromagnetic waves
Charring	Burning so as to blacken the surface
Coagulation	The action or process of a liquid especially blood, changing to a solid or semi solid state
Angstroms	A unit of length equal to one hundred-millionth of a centimetre

Questions

Part – A

Choose the correct answer(1 mark)

1. A method of cooking where food is cooked without direct contact of water is called _____.

a) steaming

b) boiling

c) stewing

d) poaching

GLCJPY

2. Out of the given four methods of cooking select one method which preserves the maximum nutrients.

a) steaming

b) stewing

c) pressure cooking

d) roasting

3. Stewing is characterized by

a) high temperature and lots of water

b) low temperature and little water

c) low temperature and lots of water

d) high temperature and loss of water

4. Pressure cooking is done at.

a) above 100^0 C

b) below 100^0 C

c) 100^0 C

d) 200^0 C

5. Match the food items given in column I with the method used in cooking it from the column II.

Column I	Column II
(i) Dhokla	(a) Simmering
(ii) Dal	(b) Deep-frying
(iii) Puri	(c) Shallow frying
(iv) Paratha	(d) Steaming
	(e) Boiling

Part – B

Write short answers (2 marks)

1. Differentiate between baking and toasting.
2. State two advantages of solar cooking.
3. State any two advantages and disadvantages of solar cooking.

Part - C

Answer in Brief (3 mark)

1. Define poaching.
2. Bring out the differences between stewing, steaming and sauteing.
3. Which is the best method of preparing rice and dhal? Justify your choice of cooking method.
4. Write a note on baking, and its merits and demerits?
5. List the series of cooking methods followed to prepare a samosa.

Part – D

Answer in detailed (5 marks)

1. Classify different methods of cooking and explain any two methods in detail.
2. Give a brief account about the principles, merits and demerits of microwave cooking.
3. Explain the cooking method employed in the preparation of

(a) Bread (b) Idli (c) Chapaths

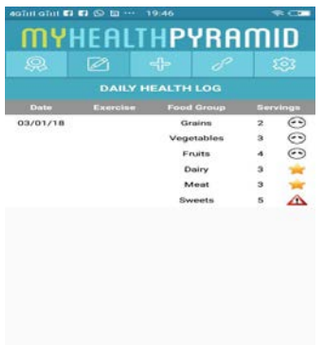
ICT CORNER

MY HEALTH PYRAMID (HEALTHY FOOD- NUTRITION AND DIETETICS)

Health Pyramid presents the simple nutritional habits. It provides what we should eat referring to the various families of nutrients.
This activity will enable the students to enhance their knowledge about the Nutritious Food and also what to eat and how to eat.

STEPS:

1. Scan the QR code from your mobile. You can see "**MyHealthPyramid**" on the screen with options.
2. When you click the first option it opens for water and exercise with a glass of tumbler and a heart. When you select the glass and heart it asks for the amount of water and the period of exercises. You have to choose from the options. Third option opens with diet there also you have to choose the servings.
3. The second option gives you the feedback about the servings with smiley, stars and warning sign.



DOWNLOADING

To go inside the app directly you can either use **QR code** or the **given link.**

https://play.google.com/store/apps/details?id=com.risecreative.mypyramid

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