**SESSON: 2024/2025**

**CLASS: SS2**

**SUBJECT: FOODS AND NUTRITION**

**TERM: SECOND TERM**

**SCHEME OF WORK**

WEEK 1: MILK

WEEK 2: GENERAL USES OF MILK

WEEK 3: CONVENIENCE FOODS

WEEK 4: FRUITS

WEEK 5: VEGETABLES

WEEK 6: FACTORS TO CONSIDER WHEN PURCHASING VEGETABLES

WEEK 7: FOODS ADDITIVES

WEEK 8: HERBS AND SPICES

**INSTRUCTION: To be copied inside their notebook. Week 1-3**

**WEEK** **1: MILK**

Milk is a creamy yellowish liquid formed in the mammary gland of mammals and it is used by all female mammals to feed their young one.

**Nutritive value of milk**

The percentage nutrient composition is shown in the table below:-

|  |  |
| --- | --- |
| **Constituent** | **Percent** |
| Carbohydrate | 4.9% |
| Protein | 3.5% |
| Fat | 3.7% |
| Water | 87.2% |
| Ash | 0.7% |

From the composition above, the carbohydrate called Lactose. It is a disaccharide and it is less sweet than the common sugar (sucrose).

It is also less soluble than sucrose and can be quickly be converted to lactic acid.

**Protein contents of Milk**: Milk is a good source of high quality of protein. The major protein in milk is Casein.

However, much of casein in fresh milk is combined with calcium salt to from calcium casinate

**Vitamin content in Milk**: Milk is rich in vitamin especially the fat-soluble vitamins and water-soluble vitamins. Among the fat-soluble vitamin, Vitamin it is formed at the highest quantity while vitamin D, E and C are present in small amounts. Milk can be fortified with vitamin A and D while vitamin is destroyed if milks boiled or left to dry in sunlight.

**Fat content in milk**:

The fat content in whole milk varies among individual cows. However, during processing, milk is blended, and fat content is being controlled.

**Mineral content in Milk**:

Milk is a good source of some essential content such as Calcium and Phosphorous. It is however low in Iron.

**Reasons why milk is referred to as nature’s food**

1. Milk contains all the essentials nutrients required for good growth, good health, repair, energy, protection and regulation of the body processes for the first two years of life.
2. It is the best source of calcium which is very vital for growing babies and children.
3. It is easily digested by most people especially when cooked or taken with other foods such as cereals, beverages etc.
4. Milk can be used in a variety of dishes.
5. Milk can be consumed or used without further preparation.
6. It is ideal for invalid and convalescent diet
7. Milk is good for all ages
8. It serves as a substitute for solid foods.

**Milk products**

1. Yogurt
2. cheese

**USES OF MILK PRODUCTS**

1. **Yogurts**: can be taken on special occasions such as Picnic, Campaign.

* It is also consumed in hot climate as refreshing meal course.
* It can be added to dishes to improve their flavour
* It adds variety and flavour to dishes
* It can be used with fruit and vegetable salad.

1. **CHEESE**:

* As a main ingredient in dishes.
* It can be served plain at the end of lunch.
* It can be consumed as snack.

**WEEK 2: GENERAL USES OF MILK**

1. Milk is used in feeding of babies, invalids, expectant and nursing mothers, old people and adolescent.
2. It can be used with cereals as breakfast, milk puddings etc.
3. It can be used in flour mixtures such as batters in cake.
4. It is used in making sweets such as milk candy and biscuits and condensed milk.

**TYPES OF MILK**

1. **Skimmed Milk**: Here, the fat contents have been removed and it is only made up of protein, carbohydrates, minerals and vitamins. It has a lower energy value than the whole milk.
2. **Evaporated Milk**: This is a type of milk in which about 60% of the water content has been removed. This is achieved by heating in a vacuum.
3. **Dried Milk**: Here, Over 90% of the water content has be removed and is then milled to powered form.
4. **Condensed Milk**: This is a type of milk which is safe and has a suitable nutritive sweeter (sugar) added to it. It is therefore sweeter and thicker than evaporated milk because of the very high sugar content, it keeps longer than the evaporated milk.
5. **Filled Milk**: This is the combination of skimmed milk and vegetable fat.
6. **Fresh Milk**: This is the type of milk that is directly obtained from the cow where none of the nutrients have been removed. It is highly nutritious than all other types of milk, the fresh milk however can be subjected to other industrial processes with the aim of preserving and storing it. For example when milk is heated for a short time (30 mins). At a temperature 100oc, the heat temperature is known as PASTEURIZATION. The aim of pasteurization to kill all the harmful bacteria in milk.

Another process that fresh milk can be subject to is STERILIZATION:

In this process the milk is subjected to a more severe heat treatment than pasteurization. The objective of sterilization is not only killing the harmful bacteria but all the micro-organisms present in it.

**Ways of preserving milk**

1. Sterilization
2. Evaporation
3. Canning
4. Pasteurization
5. Condensation
6. Ultra heat treatment
7. Spray drying etc.

**Milk dishes**

1. Ice cream
2. Milk candy
3. Custard
4. Sauces
5. Milk puddings

**WEEK** **3: CONVENIENCE FOODS**

Convenience foods are foods that are pre prepared or processed in order to reduce or eliminate the time of preparation. They are answers for a busy homemaker who wishes to prepare quick meal. Some of these foods are to be cooked and needed to be reheated or heated before serving. Examples are vegetables, meat, fish, cereals etc.

**TYPES OF CONVENIENCE FOODS**

1. **Quick frozen foods**: These are foods are already cleaned trimmed and then kept in frozen condition e.g. meat, fish, pies etc.
2. **Canned foods**: These are foods that have been subjected to some processing and then sealed in cans e.g. corn beef, tomato, sardine, milk and tomato puree.
3. **Dehydrated food**: These are foods in which the moisture contents have been reduced drastically e.g. instant tea, potato flakes, coffee.
4. **Packed food**: These are already cooked foods that are specially packed. Such foods are usually at the final stage of consumption and need no further cooking e.g. biscuit, cakes, sandwich etc.

**Uses of conveniences food**

1. Some of them are used as a main food
2. They are used to improve nutritive value or quality of food.
3. They are used as flavouring

**Factors to consider when selecting convenience food**

1. Check for the list of ingredients
2. Check the manufacturing and expiry date
3. Consider the storage facilities available
4. The seams must be intact
5. The can should not be dented
6. The can must not be bulgy.

**Advantages of conveniences food**

1. It saves time and energy
2. It is easy to carry about
3. It is a good for an inexperienced cook.
4. It saves a housewife from embarrassment when an unexpected visitor arrives.
5. It is available in and out of season
6. It makes cooking faster
7. It is easy for the housewife to store handle

**Disadvantages of conveniences food**

1. Some of them are very expensive
2. Some of the nutrients must have be destroyed by the processing method.

**WEEK** **4: FRUITS**

This is the fleshy seed-bearing part of plant. It is the complete structure formed by a ripened ovary of a flowering plant. Fruits can be classified into two groups.

1. **Fresh fruits**: These are fruits that is soft and has succulent tissues e.g. oranges, watermelon, berries etc. it can further be classified into the following.
2. Soft: Banana
3. Hard Fruit: Apples, Mangoes
4. Citrus Fruit: Orange, Lemon, Grape etc.
5. **Dried fruits**: examples are Dates, Apricot.

**NUTRITIVE VALUE OF FRUITS**

1. **Vitamins**: Vitamin C (ascorbic acid) is the major nutrients found in fruit. It also contains carotene and vitamin B complex.
2. **Carbohydrate**: They contain carbohydrates in form of sugar such as fructose and sucrose. It also contains cellulose and starch. The cellulose is indigestive and so add bulk to the stool. Which means fruit is a mild natural laxative.
3. **Minerals**: Fruit contains some organic acid which are responsible for the soreness of unripe fruit. Some of these acids found are tartaric acid, Oxalic, Malic acid.

**Factors to consider when choosing fruits**

1. It should not be over ripe
2. It must be firm to touch
3. It must be from insects infestation
4. It must be fresh

**Reasons of cooking fruits**

1. Fruits are cooked to make it more palatable
2. Fruits are cooked to improve their starch content

**Methods**

Stewing method

**Effects of heat on fruits**

1. Vitamin C is destroyed
2. Fruits becomes softer and more digestive
3. Pectin is released to make jellies
4. Mineral salts are leached out into the water
5. It destroys bacteria which may be present in the food

**Ways of serving fruits**

1. It can be served in form of fruit salad
2. The juice can be squeezed out like citrus and served.
3. Fresh fruits can be served raw.

**WEEK 5: VEGETABLES**

These are plants cultivated for food.

**Classification of vegetables**

1. Root of tuber e.g. cassava, yam, carrots
2. Green leaves e.g. water leaf, lettuce etc.
3. Buds or swollen leaves e.g. onion, garlic
4. Pulses and legumes e.g. Beans, Cowpea
5. Miscellaneous e.g. cucumber, pepper, garden egg, okra

**Nutritive value of vegetables**

1. **Protein**: The protein in vegetable is second class of protein and is formed basically in pulses and legumes.
2. **Carbohydrates**: They are present in form of starch, sugar and cellulose.
3. **Mineral Salts**: Phosphorus, Calcium, Iron are all present in some leafy vegetables.
4. **Vitamins**: Vitamin A, B and C are present but vary in little quantity with the particular of vegetables.
5. **Water**: All vegetables contain large percentage of water.

**Importance of vegetable in diet**

1. It helps in digestion and prevents constipation
2. It supplies dietary fiber
3. It reduces the incidence of cancer, Stroke cardiovascular diseases.

**WEEK 6: FACTORS TO CONSIDER WHEN PURCHASING VEGETABLES.**

1. **Root vegetable**
2. It must be free from soil
3. It should be free from spade mark and signs of decay
4. It should be fresh an or inked and firm
5. **Miscellaneous vegetables**
6. It should not be over ripped
7. It should be firm when touched
8. It should be fresh the top should snap sharply when broken.
9. There should be no black spot
10. **Green Leafy vegetables**
11. It should be free from defeat attack
12. The leaves should not drop when the bunch is shaken
13. The colour should be greenish and attractive

**Reasons for cooking vegetables**

1. To make them more digestive
2. To make them more palatable and appetizing
3. To preserve their colour and flavour as well

**Effects of Heat on vegetables**

1. Vitamins and soluble minerals are leached out by water in boiling.
2. The addition of bicarbonate of soda on green leafy vegetable destroys Vitamin C inside.
3. The cellulose is semi-cellulose in cell wall re soften.
4. Starch grains swell and burst.

**WEEK 7: FOOD ADDITIVES**

Food additives are substance added to food in order to preserve the flower or enhance its taste. Appearance or other qualities i.e. food additives can be natural or artificial substances added to food intentionally in order to improve texture, nutritional value or shelf life.

**Types of food additives**

1. **Preservatives**: Are chemicals used to prevent the growth of micro-organisms. A good preservative should not be toxic and should not affect the colour, taste and flavour of the food. Examples are Sodium nitrates, Acetic and vinegar.
2. **Antioxidants**: many natural foods are oxidized when exposed to air. When oxidation occurs, villain and lipids are broken, and changes occur in pigment and flavour. Antioxidants help to slow down or prevent oxidation in foods. Examples vitamin E and Ascorbic (vitamin C) acid are used as an antioxidants
3. **Stabilizers**: Are substances that keep a compound or mixture or solution from changing its form or nature. They are made from natural starches such as pectin which is used in foods like ice cream etc.
4. **Buffers:** A buffer is a substance that helps to maintain the relative balance of hydrogen and hydroxide ion. It is used to obtain a desired PH in some foods. E.g. citric acid, sodium citrates and lactic acid are additives that serve as buffers.
5. **Colours:** These are additives added to food to improve appearance and make the food more appetizing e.g. Red 3 known as erythrosine.
6. **Flavors:** these are substances that are used to enhance a taste
7. **Sweeteners:** Sugar and other sweeteners are used to make the taste and smell of food more pleasing

Natural’ssweeteners include honey, Molasses and artificial sweeteners which are used in many diet food and beverages while the calorie content is being reduced e.g. Saccharin and Aspirin.

1. **Emulsifiers**: When oil and water and other liquids are mixed and shaken, they form a solution which quickly separate with the oils settling on top of the water. The work of emulsifies is to hold the oil and water so that it will not separate e.g. Lecithin.

**WEEK 8: HERBS AND SPICES**

Herbs are usually obtained from the leaves of a plant, while spices are derived from roots, buds etc. or born of a plant. They contain volatile oils which gives flavour and aroma. They become sterile if kept for too long and they lose their value flavour and aroma. Herbs and spices can either be natural or artificial.

Natural herb and spices are those that are used directly as they derived from the plant without subjecting to any industrial processing while artificial herbs and spices are those that are produced industrially after processing.

**Natural herbs & Spices Artificial Herbs & Spices**

African Lemon grass Curry

Ginger, garlic and onion thyme

African nutmeg nutmeg

Mustard seed etc. Cinnamon

Iru (Locust bean) Mustard

African black pepper

Tea bush/Saint leaf/Efirin

Bitter leaf

Natural Flavouring: Ginger, Cinnamon, nutmeg, pepper, sesame, onion, dried crayfish, orange peel etc.

Artificial Flavouring: Curry powder, Thyme, Green pepper, and Vinegar

Natural Colouring: Carotene, Chlorophyll 2, turmeric, carotenoids.

Artificial colouring: Coal tar of different colours e.g. those used in the manufacturing of ice cream, jelly, vanilla etc.

**Uses of additives**

1. To improve the flavour of the food
2. To improve the appearance and colour of the food
3. To improve the taste of the food
4. To excite the appetite
5. To act as a tenderizer
6. For garnishing
7. As preservatives
8. Used as emulsifiers