



CLASS-VI
SUBJECT-SCIENCE
SPECIMEN COPY
SESSION:22-23

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Chapter-1

Food: Where Does it Come From?

❖ KEY WORDS:

- Ingredients
- Edible
- Nectar
- Sprouted seeds
- Herbivore
- Carnivore
- Omnivore

❖ KEY POINTS TO REMEMBER:

- Eating a variety of foods provides a range of different nutrients to the body and promotes good health.
- **USES OF FOOD IN OUR BODY**
 - For energy
 - for growth
 - for body functions
 - for wounds healing
 - for good health
- Main sources of food are plants and animals.
- Exception salts and water does not come from plants and animals.
- Depending on food habits animals can be classified into Herbivores, Carnivores and Omnivores.
- Animals which eat only plants are called **herbivores**. Example: cow, goat, sheep etc.
- Animals which eat only animals are called **carnivores**. Example: tiger, lion, etc.
- Animals which eat both plants as well as other animals are called **omnivores**. Example: bears, foxes, dogs, etc.
- Animals that live on dead and decaying food is called **scavengers**. Example: hyenas, vulture, etc.

Summary

There is a lot of variation in the food eaten in different regions of India.

The main sources of our food are plants and animals.

PLANT SOURCE OF FOOD

(A) Parts of the plants as a source of food

1. plant roots are used as food. Ex. Carrot, Turnip, Radish, Beetroot.
2. Plant stems are used as food : Ex. Potato, Coriander and sugarcane.
3. plant leaves are use as food : Ex. spinach, cabbage, onion.
4. flowers from plant are used as food : Ex. Rose, Cauliflower and Bauhinia (kachnar)
5. Fruits on plant are used as food :

- pulpy fruits: grapes, banana, apple
- Nuts and dry fruits : almond, currant (kismis)
- Fruits used as vegetable : Brinjal ,tomato ,gourd, beans

6. Seeds are used as food :

- Cereals(grains)and seeds : paddy(rice),maize(corn),wheat
- pulses (dal) : Gram(Chana),green gram(mung), pegeon pea.
- Seeds yield oil which is used as food : mustard(sarson),sesame(til),coconut oil.

(B) FOOD THAT COMES FROM ANIMALS

1. MILK;
2. EGGS
3. MEAT FROM ANIMALS
4. FISH,PRAWNS,CRABS
5. HONEY

Main sources of food are plants and animals Main sources of food are plants and animals.

- Animals which eat only plants are called **herbivores**. Example: cow, goat, sheep etc.
- Animals which eat only animals are called **carnivores**. Example: tiger, lion, etc.
- Animals which eat both plants as well as other animals are called **omnivores**. Example: bears, foxes, dogs, etc.

❖ **Tick the correct answer:**

1. Honey bees are often seen sitting on flowers. Why do they do so?

- (a) They like flowers
- (b) They lay egg son flowers
- (c) They suck nectar from flower
- (d) All of these

Ans :They suck nectar from flower

(d) milk

(e) sugarcane

(f) omnivores

❖ **State True or False:**

1. Honey is prepared by honey bees. [True]
2. Human beings are omnivores. [True]
3. Sprouted grains give less energy compared to normal grains. [False]
4. Tiger, giraffe and yak provide us milk. [False]
5. All living beings need food. [True]

❖ **Short question –answer:**

Q1- Define ingredients?

Ans-Ingredients are substances that are combined to make a particular dish.

Q-2 What are the two common sources of food items?

Ans-Plants and animals.

Q-3 What items are used to prepare cooked rice?

Ans-.Raw rice and water.

Q-4 Do you find that all living beings need the same kind of food?

Ans-No, all living beings do not need same kind of food.

Q-5 What do you call the habit of an individual to eat a particular type of food items commonly?

Ans. Food habit.

Q-6 What is honey?

Ans.Sweet juice collected from flowers is called honey.

Q-7 Name the three products each provided by plants and animals?

Ans: Plants products: Grains, cereals and vegetables

Animal products: Milk, egg and meat

❖ **Long question-answer:**

Q-1 Do you find that all living beings need the same kind of food?

Ans:All living beings do not need the same kind of food. We know that different organisms eat different kinds of food. This is because of the differences in their structures, requirements, habitats, etc.

Q-2 Name five plants and their parts that we eat.

Ans:

Brinjal- Fruit
 Groundnut- Seed
 Potato- Stem
 Spinach- Leaves
 Beetroot- Roots

Q-3 Match the items given in Column A with that in Column B

Column A	Column B
Milk, Curd, Paneer, Ghee	Eat other animals
Spinach, Cauliflower, carrot	Eat plants and plant products
Lions and tigers	Are vegetables
Herbivores	Are all animal products

Solution:

Column A	Column B
Milk, Curd, Paneer, Ghee	Are all animal products
Spinach, Cauliflower, carrot	Are vegetables
Lions and tigers	Eat other animals
Herbivores	Eat plants and plant products

Q-4 Why bees store nectar in their hives?

Ans- Flowers are not available throughout the year .So bees collect the nectar during flowering seasons to survive during cold months and also to feed their young ones.

Hots:

1. Suggest any three ways you can think of to avoid wastage of food.

Ans: Three ways we can avoid wastage of food are :

- 1) The food that we produce should not get spoilt or eaten away by animals. For this, it should be stored in granaries and silos.
- 2) In daily uses we should use drying and other preservation techniques to avoid the spoilage of food stuffs.
- 3) We should avoid cooking more amount of food than required.

2.Does everyone around you get enough Food to eat? If not,why?

Ans:No, everyone around us does not get enough food to eat. In our country a large population is living below poverty line(BPL). Food is either not available to them and even if food is available, they do not have money to buy enough of it. There are a large number of people suffering from diseases which are a result of their not eating enough.

Q-3 Differentiate between herbivores, carnivores and omnivores. Give two examples each?

Herbivores	Carnivores	Omnivores
Animals which eat only Plants ,plants part or Plants product are called herbivores. Example Cow, buffalo, Sheep	Animals which eat other Animals are called carnivores. Examples Lion ,tiger	Animals which eat both Plants and animals are Called omnivores. Example Dog, cat, Human beings.

❖ **Activity:**

1.Draw and label the different parts of plants.

2.Paste the five pictures of herbivores, carnivores and omnivores

Ch-2

Components of Food

❖ **Keywords:**

Balanced diet
Beriberi
Carbohydrates
Energy
Fats
Minerals
Nutrients
Proteins
Roughage
Scurvy
Starch
Vitamins

❖ **KEY POINTS:**

- **Nutrients:** Food substances that provide nourishment to the body.
- The major nutrients in our food are carbohydrates, proteins, fats, vitamins and minerals. In addition, food also contains dietary fibres and water.
- Carbohydrates and fats mainly provide energy to our body.
- Carbohydrates : cellulose, starch and sugar.
- **Carbohydrates:** These are energy-giving compounds. There may be simple carbohydrates or complex carbohydrates.
- Sources of fats : animal fats and vegetable fats.
- **Fats:** These are very high energy-giving compounds. They produce greater amount of energy than carbohydrates.
- Carbohydrates and fats are Energy giving food.
- **Minerals:** These are elements required by the body in small amounts. It is essential for growth and development of bones, teeth and red blood cells.
- **Proteins:** These are body-building foods. They help in growth of the body.
- **Vitamins:** These are organic substances that protect the body from diseases.
- **Roughage:** It is the dietary fibre present in the food. It facilitates regular movement of the bowels and prevents constipation.
- Dietary fibre and water are not food.
 - **Balanced diet:** It provides all the nutrients that our body needs, in right quantities, along with adequate amount of roughage and water.
 - **Deficiency Diseases:** These are the diseases caused due to the lack of required nutrients for a long period in the diet.

❖ SUMMARY

- The major nutrients in our food are carbohydrates, proteins, fats, vitamins and minerals.
- In addition, food also contains dietary fibres and water. Carbohydrates and fats mainly provide energy to our body.
- Proteins and minerals are needed for the growth and the maintenance of our body
- Vitamins help in protecting our body against diseases
- Balanced diet provides all the nutrients that our body needs, in right quantities, along with adequate amount of roughage and water.
- Deficiency of one or more nutrients in our food for a long time may cause certain diseases or disorders.

➤ **Some Nutrients Deficiency Diseases are:**

1. **Protein:** - Stunted growth, thinning of legs, protruding belly.
2. **Protein and Carbohydrates** – Complete/partial arrest of growth, lack of energy.
3. **Vitamin D and calcium : Rickets** – Bowed legs, bent spine, deformed bones are joints.
4. **Vitamin C: Scurvy** – Bleeding and swelling of gums, weakness.
5. **Iodine: Goitre** – Enlargement of thyroid gland, retarded growth.
6. **Iron – Anaemia** – Fatigue, loss of appetite, pale skin.
7. **Vitamin K : -Bleeding disease-** delay in blood clotting leads to excess bleeding.
8. **Beri-beri : - Vitamin B₁** - weakness in muscles, little energy to do work, paralysis
9. **Night blindness - Vitamin A** - No vision at night or in dim light.

❖ Tick the correct one:

Q-1: Which one of the following food items does not provide dietary fibre?

- (a) Fruits and vegetables
- (b) Milk
- (c) Whole grains
- (d) Whole pulses

Ans : Milk

Q-2 A component which found in our food as “Starch” That is a form of

- a) Carbohydrates
- b) Protien
- c) Fat
- d) Vitamin

Ans: Carbohydrte

Q-3 Rickets is caused by the deficiency of

- a) Vitamin-A
- b) Vitamin-B1

- c) Vitamin-C
- d) Vitamin-D

Ans: Vitamin – D

Q-4 A component which is needed for the growth and repair of our body is

- a) Carbohydrate
- b) Protein
- c) Fat
- d) Vitamin

Ans: Protein

Q-5 The essential components of our food are called

- a) Roughage
- b) Nutrients
- c) Minerals
- d) Vitamins

Ans: Nutrients

Fill in the blanks:

- (a) **Rickets** is caused by deficiency of Vitamin D.
- (b) Deficiency of **Vitamin B1** causes a disease known as beri -beri.
- (c) Deficiency of Vitamin C causes a disease known as **Scurvey**.
- (d) Night blindness is caused due to deficiency of **Vitamin A** in our food.
- (e) **Vitamin D** the vitamin that our body prepares in the presence of sunlight.
- (F) Deficiency diseases can be prevented by taking a **Balanced diet**
- (g) Eating too much of fat –rich foods may lead to a condition called **Obesity**.

State true or false

- (a) By eating rice alone, we can fulfil nutritional requirement of our body .**F**
- (b) Deficiency diseases can be prevented by eating a balanced diet. **T**
- (c) Balanced diet for the body should contain a variety of food items .**T**
- (d) Metal one is sufficient to provide all nutrients to the body. **F**
- (e) Lacks of nutrients in our diet over a long period cause deficiency diseases. **T**
- (f) A food items may contain more than one nutrients. **T**

❖ **Name the following:**

- (a) **The nutrients which mainly give energy to our body.**
- (b) **The nutrients that are needed for the growth and maintenance of our body.**

(c) A vitamin required for maintaining good eyesight.

(d) A mineral that is required for keeping our bones healthy.

Solution:

a) Carbohydrates

b) Proteins and minerals

c) Vitamin A

d) Calcium

❖ **Short question-answer:**

Q-1 What is the main function of roughage?

Ans: The main function of roughage is to help our body get rid of undigested food.

Q-2 Why should a meal have different food items?

Ans: A meal should have different food items because our body needs different kinds of nutrients for proper functioning.

Q-3 What is obesity?

Ans: When a person eats too much fat-containing foods, then the fat gets deposited in his body and he may end up suffering from a condition called obesity.

Q-4 Write the functions of water in our body.

Ans: Water helps our body to absorb nutrients from the food. It also helps in removing the waste from the body in the form of urine and sweat.

Q-5 Name major nutrients in our body?

Ans: Carbohydrate, Fats, proteins, Vitamins, roughage and water are essential nutrients for our body.

Q-6. Name two foods each rich in:

(a) Fats

(b) Starch

(c) Dietary fiber

(d) Protein

Solution:

a) Cream, Butter

b) Rice, Wheat

- c) Whole grains, raw vegetables
- d) Milk, Soya bean

❖ **Long Question answer:**

Q-1 What is a balanced diet? Write the components of balanced diet.

Ans: A diet which provides the right proportion of all the nutrients that our body needs along with roughage and water is called balanced diet. The various components of balanced diet are carbohydrates, fats, proteins, vitamins, minerals, roughage and water.

Q-2 Water does not provide nutrients, yet it is an important components of food . Explains.

Ans: 1) Water helps our organs to absorb nutrients from food.

2) Water helps in the removal of wastes in the form of urine and sweat.

3) Water helps our body in maintaining Temperature.

Q-3 What are nutrients? Name major nutrients with examples?

Ans: The components of food which are needed by our body for growth and development are called nutrients .The major nutrients are:

- (i) Carbohydrates-Potato, wheat, rice
- (ii) Fats-Nuts ,Eggs, milk, ghee
- (iii) Proteins- pulses, meat, paneer, milk
- (iv) Vitamins-Carrot ,Guava ,orange. chillies
- (v) Minerals-Banana, milk, spinach

Q-4 Name any 3 vitamins, the resources and deficiency disease caused by them.

Vitamin	Sources	Deficiency disease
Vitamin A	Green leafy vegetables, fruits	Night blindness/loss of vision
Vitamin B1	Wholegrains, eggs	Beri-Beri
Vitamin C	Citrus fruit, Peppers ,strawberries	Scurvy
Vitamin D	Egg yolk, spinach ,sunlight, mushrooms	Rickets

Hots:

Q-1

Boojho was having difficulty in seeing things in dim light. The doctor tested his eyesight

and prescribed a particular vitamin supplement. He also advised him to include a few food items in his diet.

- a. Which deficiency disease is he suffering from?
- b. Which food component may be lacking in his diet
- c. Suggest some food items that he should include in his diet. (any four)

- Ans.**
- a. Boojho is suffering from a disease known as night blindness.
 - b. Absence or minimum amount of vitamin A in the body causes night blindness.
 - c. He should eat papaya, carrot, green leafy vegetables like spinach, fish oil, etc.

Q-2 Tasty food is not always nutritious and nutritious food may not always be tasty to eat. Comment with examples.

Sol. Foods Like burgers, potato chips, Pizza are delicious but are not nutritious. These contain a lot of refined flour, oil, and spices that are not good for the liver. Whereas food like boiled vegetables, juices pulses, etc. are not always tasty but they are highly rich in nutrients like vitamins and proteins that keep us healthy.

Activity:

1. Paste the pictures of carbohydrates, fats and proteins sources.
2. Prepare a chart on diseases/ disorders caused by deficiency of vitamins and minerals.

CHAPTER-3

Fibre to Fabric

❖ **Key words:**

- Cotton wool
- Fabric
- Fibre
- Knitting
- Spinning
- Weaving
- Yarn
- Ginning

❖ **Key points to remember :**

FIBRE: Fibre is a fine thread-like filament.

There are two types of fibers:

(a) Natural Fibres: The fibres which are obtained from plants and animals.

Example: cotton, jute, silk and wool.

(b) Synthetic Fibres: are made from chemicals substance. Synthetic fibres are manmade fibre. They are also called artificial fibers.

Examples: rayon, nylon ,polyester, etc.

Fibres from plant sources:

1. **Cotton :**cotton comes from cotton plant. Both, plant and the fibre are called cotton. Cotton is grown in black soil and warm climate.
- 2.**Jute:** jute is obtained from stem of jute plant.

PROCESSING OF COTTON FIBRE

1. Ginning:-Removal of seeds from fibre.
2. Spinning:-drawing yarn thread from cotton fibre.
3. Weaving:-making cloth or fabric from yarn.

PROCESSING OF JUTE

1. **Retting of plant:-**After harvesting the jute plants (stalks)are retted (soaked)in water for 10 to 15 days or more. retting soften the rest of the stem tissues other than fibres.

2. **Stripping:-**The stalks are stripped to bring out the fibres. This is done by hand.

3. **Washing and drying:-**The stripped fibres are washed and dried in sun.

Fibres from animal sources:

(a) Wool: wool cloth is spun from yarn made from the fibres of the thick fleece of sheep.

(b)Silk: silk thread is obtained from the saliva of an insect called silkworm.

Making Fabric from Yarn: It is done by two processes:

(a) Weaving: The process by two sets of yarns are arranged together to form fabric. It is done on looms.

weaving involves placing two sets of threads or yarn made of fibre, called the **warp** and **weft** of the loom.

The **warps** are drawn tight in parallel order, with the **weft** being interplaced at right angles to the warps.

(b) Knitting: The process by which a single yarn is used to make fabric. It is done by hand or machines.

❖ **Summary:**

- There is a variety of clothing material or fabric, such as, cotton, silk, wool and polyester.
- Fabrics are made from yarns, which in turn are made from fibres.
- Fibres are either natural or synthetic. Cotton, wool, silk and jute are some natural fibres, while nylon and polyester are some examples of synthetic fibres.
- Fibres like cotton and jute are obtained from plants.
- The process of making yarn from fibres is called spinning.
- Fabric from yarns is made by weaving and knitting.

❖ **Tick the correct one:**

Q-1 :Boojho went to a cloth shop. There he found a fabric, which was smooth to touch, had vibrant colour and shine. The fabric could be .

- a) Silk
- b) Jute
- c) Cotton
- d) Wool

Ans: Silk

Q-2: Which part of jute plant is used to obtain jute fibre.

- (a)Seed
- (b)Flower
- (c)Stem
- (d)fruit

Ans: stem

Q-3 Yarn is woven to get fabric using

- a) Knitting needle
- b) Looms
- c) Charkha
- d) Spinning machines

Ans:Looms

Q-4The correct sequence to get cloth is

- a) Fabric→Yarn→Fibre

- b) Yarn→Fibre→fabric
- c) Fibre→Fabric→yarn
- d) Fibre→Yarn→fabric

Ans: Fibre→Yarn→fabric

Q-5 Cotton fibres are separated from

- (a) cotton balls
- (b) cotton boils
- (c) cotton bales
- (d) all of these

Ans:cotton balls

Q-6 Which one of the following is a synthetic fibre?

- (a) Nylon
- (b) Rayon
- (c) Polyester
- (d) All of these

Ans:All of these

Q-7 Which of the following is a plant fibre?

- (a) Wool
- (b) Silk
- (c) Cotton
- (d) Nylon

Ans: Cotton

Q-8 Which type of soil is suitable for growing cotton?

- (a) Red soil
- (b) Yellow soil
- (c) Black soil
- (d) Brown soil

Ans:Black soil

Q-9 Silk is obtained from an insect called

- (a) silk moth
- (b) leech
- (c) earthworm
- (d) none of these

Ans:Silk moth

Q-10 Which of the following is not a natural fibre?

- (a) Cotton
- (b) Nylon

- (c) Flax
- (d) Wool

Ans:Nylon

❖ **Fill in the blanks:**

- 1 .Plant fibres are obtained from **cotton** and **Jute plants** .
2. Animal fibres are **Silk** and **Wool**.
3. Fibres are of two types **natural** and **Synthetic**.
4. Separation of cotton fibre from its seeds is known as **ginning**.
5. Cotton plants need **Warm** climate to grow.
6. The process of making yarn from fibres is called **Spinning**.
7. When a single yarn is used , the fabric is prepared by **Knitting**.
8. Fibres are converted into **yarns** to make fabrics.

Q.2. State whether the following statements are ‘true’ or false’:

- (a) Yam is made from fibres.**
- (b) Spinning is a process of making fibres.**
- (c) Jute is the outer covering of coconut.**
- (d) The process of removing seeds from cotton is called ginning.**
- (d) Weaving of yam makes a piece of fabric.**
- (e) Silk fibre is obtained from the stem of a plant.**
- (g) Polyester is a natural fibre.**

Ans.

- (a) True
- (b) False
- (c) False
- (d) True
- (e) True
- (f) False
- (g) False

❖ **Short question-answer:**

Q.1. Classify the following fibres as natural or synthetic: nylon, wool, cotton, silk, polyester, jute.

Ans. Natural fibres: wool, cotton, jute, silk.

Synthetic fibres: nylon, polyester.

Q.2 . From which part of the plant cotton and jute are obtained?

Ans.

(i) Cotton – Cotton bolls (from the surface of cotton seeds) (fruit)

(ii) Jute – Stem

Q.3. Name two items that are made from coconut fibre.

Ans.(i)Bags

(ii) Rope

Q.4. Explain the process of making yarn from fibre.

Ans. Yarns are made up of thin strands called fibres. The process of making yarn from fibres is called spinning. In this process, a mass of cotton wool are drawn out and twisted. This brings the fibres together to form yarn.

Q-5.:Which Fibres we get from animal sources:

(a) Wool: wool cloth is spun from yarn made from the fibres of the thick fleece of sheep. Yarn made from the fibres of the thick fleece of sheep.

(b) Silk: silk thread is obtained from the saliva of an insect called silk worm.

Q-6 What are natural fibres?

Ans: The fibres obtained from plants and animals that can be spun into filament, thread or rope are termed as 'natural fibre'

Q-7 What is retting?

Ans: The plant stems are soaked in water to remove the sticky materials and separate the fibres in this process.

Q-8 Name two uses of cotton?

Ans: It is used to make bed sheets, curtains, saris, pillows etc.....

❖ **Long Question answer:**

Q-1: Explain the PROCESSING OF COTTON FIBRE

1. Ginning :- Removal of seeds from fibre.
2. Spinning:-drawing yarn thread from cotton fibre.
3. Weaving:-making cloth or fabric from yarn.

Q-2: Explain the PROCESSING OF JUTE

1. Retting of plant:-After harvesting the jute plants (stalks) are retted(soaked)in water for 10 to 15 days or more. rettings often the rest of the stem tissues other than fibres.

2. Stripping:-The stalks are stripped to bring out the fibres. This is done by hand.

3.washing and drying:-The stripped fibres are washed and dried in sun.

Q-3:Explain the Processing of wool:

It involves four steps:

1. Shearing: The process of removal of wool from the sheep 's skin.
2. Grading: The process of separating fleece from damaged wool.
3. Carding: The process after the wool has been washed and dried, it is passed through the rollers (that have teeth).
4. Spinning: The process by which fibres are gathered together and drawn into along rope and then twisted to make yarn.

Q-4 Explain Making Fabric from Yarn:

It is done by two processes:

(a) **Weaving:** The process by two sets of yarns are arranged together to form fabric. It is done on looms. weaving involves placing two sets of threads or yarn made of fibre, called the warp and weft of the loom. The warps are drawn tight in parallel order, with the weft being interplaced at right angles to t he warps.

(b) **Knitting:** The process by which a single yarn is used to make fabric. It is done by hand or machines.

❖ **Hots:**

Q-1A cotton shirt, before it reaches you, completes a long journey. Elaborate on this journey starting from cotton bolls.

Ans:The journey starting from cotton bolls to a cotton shirt is as follows:

- i. **Picking:** Cotton bolls burst open after maturing. The seeds covered with cotton fibres are handpicked from the cotton bolls.
- ii. **Ginning:** The process of separating the seeds from fibres by combing is called ginning. These days ginning is done with the help of machines.
- iii. **Spinning:** In spinning, fibres from a mass of cotton wool are drawn out and twisted. This brings the fibres together to make a strong yarn. Spinning is done with the help of hand-operated devices such as charkha or by using spinning machines.
- iv. **Weaving and knitting:** Weaving and knitting are the two methods of converting cotton yam into cotton fabric. A cotton shirt is usually made by weaving. In weaving, two sets of yarns are arranged together to make a fabric.
- v. **Stitching:** The cotton fabric is then stitched into a cotton shirt.

Q-2 What is silk and how is it made?

Ans: Silk is made by the silkworm. The silk moth's cocoons are used to make silk fibre. Silk

moths have four phases in their life cycle: eggs, larva, pupa, and adult. Caterpillar is the larval stage of the silk moth. Its salivary gland secretes fibroin, a sticky fluid. A lengthy thread of sticky fluid forms. The caterpillar's body is then wrapped in this thread, forming a cocoon. The larva develops into a pupa, which eventually develops into an adult moth. Silk is a pricey material. The silk fibre is used to weave cloth, particularly traditional Indian outfits such as saris, kurtas, shawls, and other bridal attire. Silk has traditionally been appreciated for its lustrous sheen and superior quality.

❖ **Activity**

- **Do you know that famous sulfi saint and poet kabir, was a weaver ,Find out about his life and teaching.**
- **Prepare a chart of charkha and takli with pictured. You can also take help of internate.**

