

NEW HORIZON SCHOOL  
SUPPORT MATERIAL  
PERIODIC TEST- 1  
SUBJECT – SCIENCE  
CLASS – 6

## **Chaplet – 1**

### **Food: Where does it come from**

#### ***What is food?***

Food is the edible substance which are consumed by humans and other animals to absorb energy for various activities like physical movement, growth and development.

Food is basic need for all living organisms. Food is essential to provide energy. We take nutrition from plants as well as animals. We eat different parts of plants as food.

#### **Food material and sources:**

##### ***The different sources of food items and ingredients with the help of examples.***

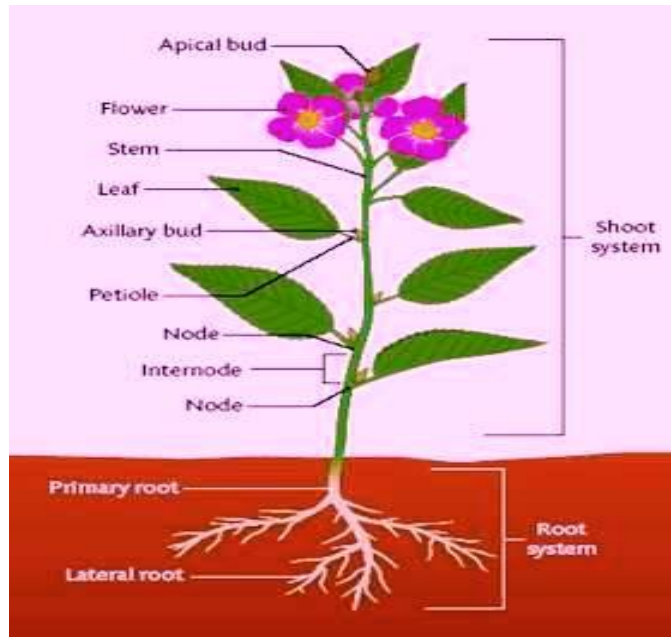
There are mainly two sources of ingredients of various food items:

- (a) Plants: Plants provide us vegetables, pulses, fruits, cereals, grains etc.
- (b) Animals: Animals provide us meat, eggs, and milk etc.

#### **Food Sources – Animal & Plant Products**

Plants and their parts that we eat are:

- (a) Brinjal Plant: Fruits
- (b) Carrot plant: Root
- (c) Cabbage: Leaf
- (d) Potato Plant: Stems
- (e) Wheat: Seeds
- (f) Mustard – Leaves and seeds, Pumpkin – Flowers and fruit.
- (g) The stem of the lotus flower is consumed as food.



**Parts of a plant**

The animals which are the direct method or rely on its products like egg, milk and dairy products, honey and so on. Animal products too are a rich source of nutrients. The food chain is composed of exactly these animals starting with organisms that use the energy of the sun to the apex at which organisms that are predators and rely on producers.

### **What is honey?**

Honey is a sweet substance in liquid state made by bees from the nectar obtained from flowers, i.e., sweet juice collected from flowers is called nectar.

### ***Significance of food for living organisms.***

The importance of food is:

- (i) They are converted into energy which is required to do various activities.
- (ii) It helps in growth of living organisms.
- (iii) It helps in the process of repair and replace of damaged parts of the body of living organisms.
- (iv) It safeguards us from various diseases and infections.

### ***It is advised that we should prefer eating cooked food.***

It is advised that we should prefer eating cooked food because by cooking harmful germs will be destroyed and become germless. Cooked food can be easily

digested and absorbed by our digestive system in our body. Cooking will also enhance the taste of food.

***Herbivores:***

Herbivores are the animals which eat only plants or plant products. For example, deer, sheep, cow, goat and buffalo are herbivores.

**Carnivores:** Carnivores are animals which eat flesh of animals. For example, lion, tiger, leopard, wolf, fox, etc.

***Omnivores:***

Ans. Omnivores are the animals which eat both plants and animals. For instance, Bear, rodent, dog etc

## Chapter – 2

### Components of food

The essential nutrients of food are called components of food.

**Nutrients:** Food items contain some components that are needed by our body are called nutrients.

The various types of nutrients are:

- (1) **Carbohydrates:** They are mainly energy- providing nutrients.
- (2) **Fats:** They provide energy to the body. They give much more energy than carbohydrates if consumed in the same amount.
- (3) **Proteins:** They are called body-building foods. Proteins help in the formation and repairing of body parts. Skin, hair, muscles, enzymes are made up of proteins.
- (4) **Vitamins:** Vitamins help in protecting our body against diseases. They also protect our eyes, bones, teeth and gums.
- (5) **Minerals:** Minerals are essential for proper growth of body and to maintain good health.

#### ***The functions of carbohydrates***

Carbohydrates have six major functions within the body:

1. Providing energy and regulation of blood glucose
2. Sparing the use of proteins for energy
3. Breakdown of fatty acids and preventing ketosis
4. Biological recognition processes
5. Flavor and Sweeteners
6. Dietary fiber

#### ***A test for detecting the presence of starch.***

1. Take any food item.
2. Add 2-3 drops of dilute iodine solution on it.

If there is a change of color to blue-black of the food item then, starch is present

#### ***The functions of proteins:***

Proteins are the most important set of nutrients. They are also called body-building foods. They help in growth and repair of damaged cells and tissues of the body. They also help our body to fight against infections

***Test the presence of proteins in a food item:***

1. Take a small quantity of the food items to be tested.
2. Put 2-3 drops of iodine solution on it.
3. Observe the color of the food item.
4. Blue-black color indicates the presence of starch in the tested food item.

**Fats:**

The energy rich sources of food are called fats. They provide energy to the body. All types of nuts, mustard seeds, milk and butter are the major sources of fat. Like carbohydrates, fats also contain carbon, hydrogen and oxygen but, fats contain lesser oxygen than carbohydrates.

***A test for detecting the presence of fat.***

Take a small quantity of the food item. Rub it on a piece of white paper. On observing carefully, you will find that the piece of white paper shows an oily patch on it which indicates that the food items contain fat.

***Vitamins and various kinds of them:***

**Answer:** They are protective compounds with no energy value. They help in proper body functioning and are required by the body in very small quantities.

Various kinds of vitamins are:

- Vitamin A
- Vitamin B- complex
- Vitamin C
- Vitamin D
- Vitamin E
- Vitamin K

***Minerals:***

Minerals are the natural occurring type of food and are needed by our body in small amounts. Minerals are essential for proper growth of the body and to maintain good health. They do not provide any energy. Milk, salt, eggs and green leafy vegetables are the main sources of minerals.

***Dietary fibres:***

They are known as roughage. Roughage is mainly provided by plants like whole grains and pulses, potatoes, fresh fruits and vegetables. Roughage helps us to get rid of undigested food.

**Water:**

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. We get water from various types of liquids, fruits and vegetables.

***A balanced diet:***

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

***What is obesity?***

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.

***Deficiency diseases:***

When a person eats a food continuously for a long time which may not contain a particular nutrient, then this condition is called deficiency of that nutrient.

Deficiency of one or more nutrients can cause diseases or disorders in our body. Such types of diseases are known as deficiency diseases.

Vitamin/ Minerals	Deficiency disease
Vitamin A	Night blindness
Vitamin B	Beriberi
Vitamin C	Scurvy
Vitamin D	Rickets
Calcium	Bone and tooth decay
Iron	Anaemia

## Chapter – 3

### Fibre to fabric

**Fibre:** Fibre is thin strands of thread is called fibre.

**Fabric:** Fabrics are made up of yarns and yarns are further made up of fibres.

The fibres are of two types:

- Natural fibres
- Synthetic fibres

#### ***Natural fibre:***

The fibres got from plants, animals are called as natural fibres.

**Example:** 1. Fibre cotton from cotton bolls 2. Jute from stem of jute plant 3. Silk from cocoon of the silkworm. 4. Wool from the hair of animals like sheep or goat.

#### ***Synthetic fibres:***

The synthetic fibres are basically from chemical substances thus are not obtained from the plants and animal sources.

For example- a. polyester b. Nylon c. Acrylic etc.

#### ***yarns made from the cotton ball:***

Yarn construction

Yarns are made up of cotton fibres: fibres twisted together or lay side by side. These fibres may be natural, manufactured, or both. Fabrics will vary greatly in design, texture, and performance.

- Staple fibres are made from short fibres, e.g. cotton, linen, wool or cut synthetic fibres.
- Filament fibres are made from the long continuous form of fibres, e.g. silk and synthetics.
- Monofilament yarns consist of a single long continuous filament.
- Multifilament yarns consist of two or more filament fibres which may or may not be twisted together.
- Micro fibres are made from very fine synthetic fibres, less than one denier in thickness.



### ***How jute is obtained from the jute plant?***

The jute plant harvest is done at flowering stage. The stems of plants that are harvested are bundled and kept in water for ten to fifteen days. The retting process is done where root of stems and fibres are separated by hand. Thus, these fibres are converted into yarns that are used to make fabrics.

### ***The process of getting yarn from the fibre.***

The thin strands are called as yarns which are made from fibre. Spinning is the process of making yarn. The process where the cotton wool is drawn out and being twisted. This process brings all the fibre together to form a yarn.

### ***Steps involved in the preparation of fabrics:***

The following steps are used in the preparing fabrics:

(i) Obtaining fibre (ii) Spinning where you obtain the yarns, gives 2 sets of yarns thus, yarns are woven to make a fabric. (iii) When two sets of yarn are involved, yarns are woven on looms to make a fabric. When there is single yarn, knitting process is used in fabric.

### ***Spinning, weaving and knitting:***

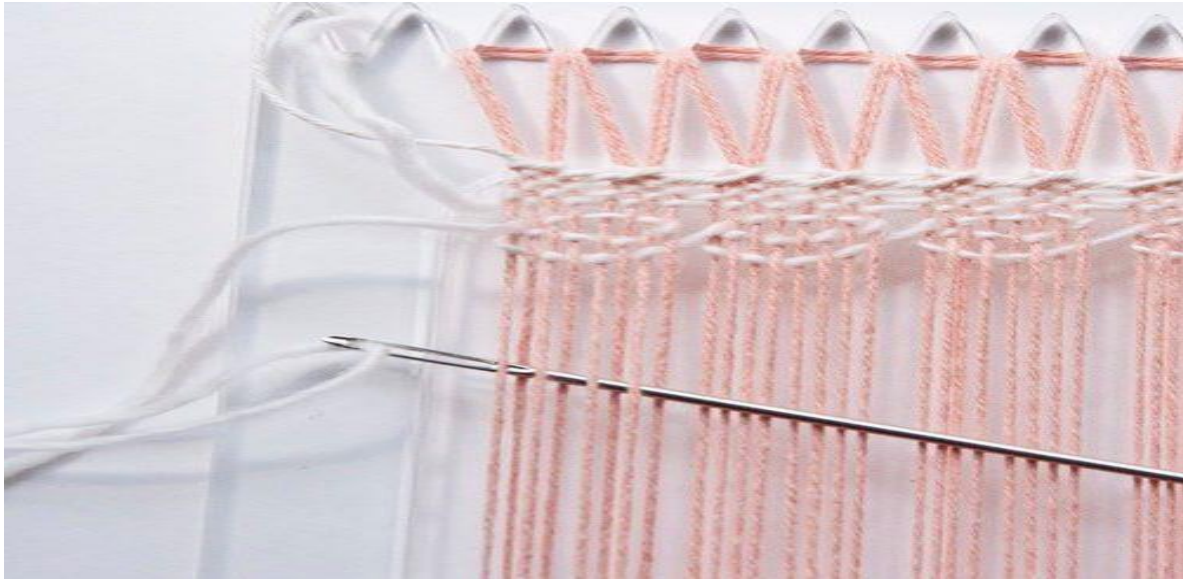
**Spinning** It is a process of converting to yarn. Yarn is used for processes such as a. weaving b. knitting etc. in the spinning process these cotton ball is converted to yarn via the following process. 1. Plucking – Cotton in ball are plucked. 2. Ginning- Cotton in ball that are plucked is divided from the seeds in this process. The seed is inside the cotton is like fruit. After separating they are packed, which are called known as bales and are transported for next process. This is the process of spinning.

Hand operated device used for spinning is Charkha.



**CHARKHA**

**Weaving** – The process of arranging two sets of yarn together to make a fabric is called weaving. The big reels of yarn are called bobbins. These bobbins are used for weaving the cloth. The cloth is woven on looms. After that they bleached and dyed to give a finish.



**WEAVING**

**Knitting:** A single yarn which is used to make a piece of fabric, this process is called knitting.



**KNITTING**

**Ginning:**

The cotton picked up from the plants still, has its seed in it. These seeds are pulled out of the cotton with the help of steel combs. The process by which cotton fibre is separated from seeds by steel combs is called ginning. Ginning can be done manually and also by machine.



## GINNING

### ***What happened to people when they began to settle in agricultural communities?***

When people settled in agricultural communities they learned to weave twigs, grass into mats and baskets for carrying. Vines and animal fleece, hair was twisted to long strands and made as curtains. These strands were woven into fabrics for their daily use.

### ***Looms:***

Weaving of fabrics generally takes place in devices called looms. The looms are operated either by hand.



## HANDLOOM

### ***Materials used by people in ancient times instead of clothes:***

They used bark and big leaves of various trees, animal skin and furs instead of clothes.

### **History of Clothing Materials:**

The study of the **history of clothing and textiles** traces the availability and use of [textiles](#) and other materials. At the same time, the study also helps in tracing the development of technology for the making of clothing over human history. The wearing of clothing is exclusively a human characteristic and is a feature of

most human societies. It is not known when humans began wearing clothes but [anthropologists](#) believe that animal skins and vegetation were adapted into coverings as protection from cold, heat and rain, especially as humans migrated to new climates. Clothing and textiles have been important in human history. They reflect the materials available in different civilizations at different times. They also reflect upon the technologies that had been mastered in due course of time. The [social](#) significance of the finished product reflects their [culture](#).

## Chapter – 4

### Sorting Materials into Groups

**Objects Around Us:** Look around and identify objects that are in different shapes. Our list may include the following objects and material.

Objects	Materials
Book	Paper
Tumbler	Glass
Chair	Wood
Toy	Plastics
Shoes	Leather

#### **Properties of materials:**

A material is any substance or mixture of substances that occupy a volume and has a mass. A substance usually refers to pure compound. Appearance, behavior, name, structure, color, order, composition and any information about a substance are properties of a material.

We most likely recognize a material by its appearance, sometimes aided by other senses such as touch, smell, and taste. Our senses detect some properties of a material, but we rely more on instruments and tests of other properties for an objective identification and analysis. Knowing the properties help us to develop the ability not only to identify but also to determine the amount and composition of a material.

Furthermore, for purposes of management, application, and utilization, we need to know how a material behave under a set of circumstances. Thus, to help us characterize, recognize, manage, and utilize materials, we need to know its properties.

**APPEARANCE:** Materials usually look different from each other. Wood looks very different from iron. Iron appear different from copper.

**Hardness:** when you press different materials with your hands, some of them may be hard to compress while others can be easily compressed.

**Luster:** shiny appearance of metal is known as luster.

**Transparency:**

Clean water is partially filled in a beaker. In beaker of water put a coin. The beaker should be kept aside undisturbed for some time in the presence of light. Now, see the water from the top of the beaker in which coin was immersed. I think you will see the coin clearly. Yes, the coin immersed in water can be seen very clearly. This proves transparent liquid is water.

***universal solvent water:***

A large number of substances dissolve in water. Hence, it is termed as universal solvent.

***Our palm is translucent:***

When your palm covers the glass of a torch switching on the light. It can be observed that the light of torch passes through palm but not clearly. This shows that when a strong beam of light passes our palm therefore our palm is translucent.

**Soluble or Insoluble:**

Gather some amount of salt, sugar, sand and chalk power. Ready with 4 beakers. About two-third with water was filled in each one of them. Teaspoonful of sugar was added to the first beaker, salt to the 2nd, in the third chalk powder and at the fourth beaker sand was filled. Each beaker with content can be stirred with the spoon/stirrer.

After some time, we can easily observe what happens to the substances added to the water. Write down your observations in the following.

Inference:

- (i) Chalk powder and sand are insoluble in water
- (ii) Sugar and salt are soluble in water.



