Important facts / Informations /
Definitions / Terms

- Nutrition — Nutrition is the mode of taking food by an organism and its utilisation by the body.

- Nutrients — Components of food needed for the body.

- chlorophyll — Chlorophyll is a green pigment which helps to capture the energy of sunlight.

- Autotrophic nutrition — Mode of nutrition in which organism make food themselves from simpler substances.

- Heterotrophic nutrition — Mode of nutrition in which organism depend upon other organism for their food.

- stomata — Tiny pores found on the surface of leaf.

- cell — The body of living organism are made of tiny units called cells

- cell Membrane — The cell is enclosed by the

then outer boundary is called cell membrane

cytoplasm - cell membrane surrounds a jelly like substance is known as cytoplasm

Nucleus - cells have a distinct, centrally located spherical structure called the nucleus.

Photosynthesis - The process of synthesizing food using carbon dioxide, water and sunlight.

Insectivorous plants - Insect eating plants.

Saprotrophic nutrition - Mode of nutrition in which organism take in nutrients in solution form from dead and decaying matter.

Host - The organism that provide nutrients to another organism.

Parasite - The organism that derive nutrients from another organism without benifitting the host.

Did you know? Light is so important to plants that their leaves grow in many patterns so as to catch the

most sunlight.

<center>Main Things / objects
given in the chapter</center>

Things / objects -

• Nutrients - Fats, carbohydrates, proteins, minerals, vitamins.

• Insects - lice, mosquitoes, bed bugs, leeches.

• Leguminous plants - beans, gram, peas, moong.

• Other Misc. - cell, cell membrane. green pigment, starch, stomata, solar energy etc.

<center>Thinking / Discussion Work</center>

Topic - Are we and other animals also parasitic on the plants?

• Students have to discuss about above topic under the guidance of teacher.

Practical Work

- Suggested activities

  - Diagram Work. Topic - Photosynthesis in plants
  (This work will be done in practical work book under the guidance of teacher.

  • Projects and activities given in the textbook will be done under the guidance of teacher.

  • Activity 1.1 & 1.2 of this chapter given in the textbook will be done under the guidance of teacher.

Expression

Write few words about the main concept of chapter. This work will be done in PWE under the guidance of teacher.

Textbook Questions

Q.1   Why do organisms need to take food?

Ans   Organisms need food to
(i) get energy to do work.
(ii) Build up body.
(iii) repair damages in the body.

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(iv) maintain the functions of the body.

Q2. Distinguish between a parasite and saprotroph.

Parasite	Saprotrophs
(i) Parasite feeds on a living organism.	They feed on dead and decaying organism
(ii) Parasite mostly live on or in the host.	They live on dead and decaying stuff.
(iii) They produce special type of organs like suckers, hooks to obtain their food.	They secrete some enzymes to decompose complex molecule in to simpler form.

Q3. How would you test the presence of starch in leaves?

Ans. Take a few green leaves. Boil them in water to remove green pigment. Take out the leaves and put 2-3 drops of iodine solution. The blue black colour of leaves indicate the presence of starch in leaves.

Q4. Give a brief description of the process of synthesis of food in green plants.

Ans. It is the process in which green plants prepare their own food by taking water (H_2O) and carbon dioxide (CO_2) in the presence of sunlight. Thus green plants convert solar energy in to chemical energy by making starch.

The process can be represented by an equation

Carbon dioxide + water $\xrightarrow{\text{sunlight}}$ carbohydrate + oxygen
                              chlorophyll

Q5 Show with the help of a sketch that the plants are the ultimate source of food.

Ans
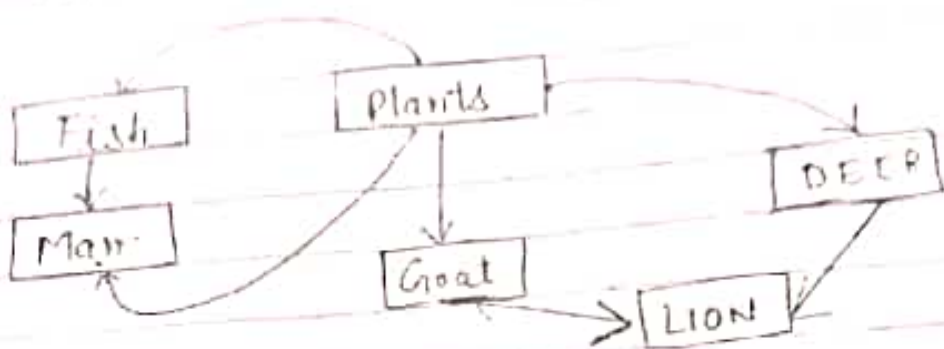
Q6 This exercise will be done in the text book under the guidance of teacher.

Q7 Name the following:
(i) A parasite plant with yellow, slender and tubular stem - Cuscuta
(ii) A plant that has both autotrophic and heterotrophic mode of nutrition - Pitcher plant.
(iii) The pores through which leaves exchange gases - Stomata

10, 11 & 12 - These exercises will be done in the textbook under the guidance of teacher.

Important Facts / Information/
Defenition / Terms

Digestion - Process of breaking down of complex
substances of food into simpler form
is called digestion.

Buccal cavity - The cavity of mouth, with all
its internal parts like cheeks,
teeth, tongue and salivary glands, is called
buccal cavity

Ingestion - The process of taking food into the
body is called ingestion.

Tooth decay - The process of damaging the tooth
by acids produced by bacteria
is called tooth decay.

Absorption - The passage of digested food into
the blood vessel is called absor-
ption of food.

Assimilation - The process in which the absor-
bed food is used for producing
energy and growth is called assimilation.

Egestion - The process of removal of faecal
matter from the body is called
egestion.

- Amino acid – Amino acid are the smallest and which combine to form complex molecule like protein

- Liver – The liver is a reddish brown gland situated in the upper part of the abdomen on right side. It is largest gland in the body

3. Oesophagus – It is also known as food -pipe. The swallowed food passes in to the oesophagus which runs along the neck and the chest. Food is pushed down by the movement of the walls of the food pipe.

- Pancreas – The pancreas is a large cream coloured gland located just below the stomach. The pancreatic juice contains enzymes which help in the digestion of carbohydrates and proteins

- Pseudopodia – amoeba engulfs tiny particles of food with the help of false feet known as pseudo-podia.

- Saliva – It is secreted by salivary glands present in the human mouth. Saliva contains an enzyme which break down the starch

the guidance of teacher.

- Activity 2.1 & 2.2 will be done in text book under the guidance of teacher.

Text book - Questions

Q3 8 4. These exercises will be done in textbook under the guidance of teacher.

What are villi ? What is their location and function ?

Villi - The finger-like outgrowths present in the inner wall of small intestine are called villi.

Location - Villi are present in the small intestine.

Function - The villi increase the surface area for absorption of the digested food. The surface of the villi absorbs the digested food materials.

Where is the bile produced ? Which component of the food does it help to digest ?

Bile is produced in the liver but is stored in gall bladder. It helps in the digestion of fats.

Name the type of carbohydrate that can be digested by ruminants but not by humans

Ans give the reason also

Cellulose is a type of carbohydrate that can be digested by ruminants but not by humans. Ruminants have a large size like structure called rumen which is present in between the small intestine and large intestine. The cellulose is digested here by the action of certain bacteria which are not present in the humans.

Q8 Why do we get instant energy from glucose?

Ans. Glucose is the simplest form of carbohydrate which can be broken down easily to give energy. So, we get instant energy from glucose.

Q9. This exercise will be done in text book under the guidance of teacher.

Q10. Write one similarity and one differen-ce between the nutrition in amoeba and human beings.

Similarity — Both amoeba and human use digestive juices to digest food.

Difference — Human beings have a well developed digestive system while amoeba has only food vacuole for digestion.

Q.11 &12. These exercises will be done in text book under the guidance of teacher.

Q.13. Can we survive on raw, leafy vegetables/grass? Discuss.

Ans. Raw, leafy vegetables are source of minerals, cellulose, water and vitamins. But besides these, body need carbohydrates, proteins also. So, survival on raw, leafy vegetables is not possible.

Important Facts / Informations
Definitions / Terms

- **Motion** — The process of moving or changing position is called motion

- **Linear Motion** — The movement of an object along a straight path is known as linear motion

- **Circular motion** — some objects move in a circle. Their motion is called circular motion.

- **speed** — The rate of change of an object is its speed. The unit of speed is meter per second.

- **Time period** — It is the time taken by a vibrating body to complete one revolution.

- **simple pendulum** — It consists of a heavy particle suspended from a fixed point with the help of flexible thread.

- **Uniform motion** — If an object cover equal distance in equal intervals of time, then the object is said to have uniform motion.

- **Non-uniform Motion** — If an object covers unequal distances in equal intervals of time then motion of the object said to be non-uniform.

- **Oscillation** — To and fro motion of an object is said to be oscillation.

- **Graph** — The pictorial represent-tation of two variables interdependent of one another.

- **Speedometer** — It records the speed of vehicle directly in Km/h

- **Odometer** — This meter measures the distance moved by the vehicle

Q.182. These exercises will be done in textbook under the guidance of teacher

Q.3 A simple pendulum takes 32 s to complete 20 oscillations what is the time period of the pendulum?

Ans. Time taken for 20 oscillations = 32 s

time " " 1 " = $\frac{32s}{20}$

time period = 1.6 s

Q.4 The distance between two stations is 240 Km. A train takes 4 hours to cover this distance calculate the speed of the train.

Ans.

Distance = 240 Km

time = 4h.

speed = $\frac{Distance}{time}$ = $\frac{240\ Km}{4\ h}$

= 60 Km/h

Q 5 The odometer of a car reads 57,321 km when the clock shows the time 08 30 AM what is the distance moved by the car if at 8:50 AM, the odometer reading has changed to 573360 km. Calculate the speed of the car in km per min during this time. Express the speed km/h also.

ans: odometer reading at 8130 AM = 57321·0 km
odometer " " 8:50 AM = 57336·0 km
Distance travelled = 57336 - 57321 = 15·0 km

time taken = 8:50 - 8:30 = 20min

$$Speed = \frac{Distance}{time}$$

$$= \frac{15 \ km}{20 \ min} = 0.75 \ km/min$$

$$Speed \ in \ km/h = \frac{0.75 \ km}{1/60} = \frac{0.75 \times 60}{} = 45 \ km/h$$

Q-6 Salma takes 15 min from her house to reach her school on a bicycle. If the bicycle has a speed of 2m/s. calculate the distance between her house and the school.
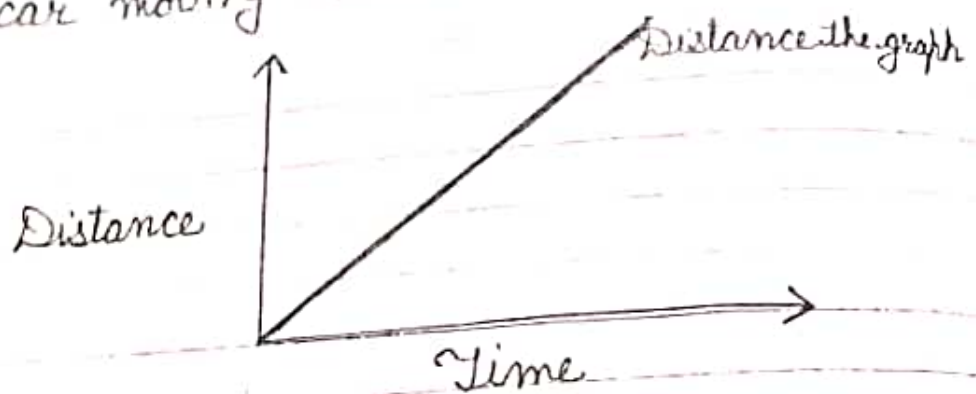
s· speed = 2 m/s
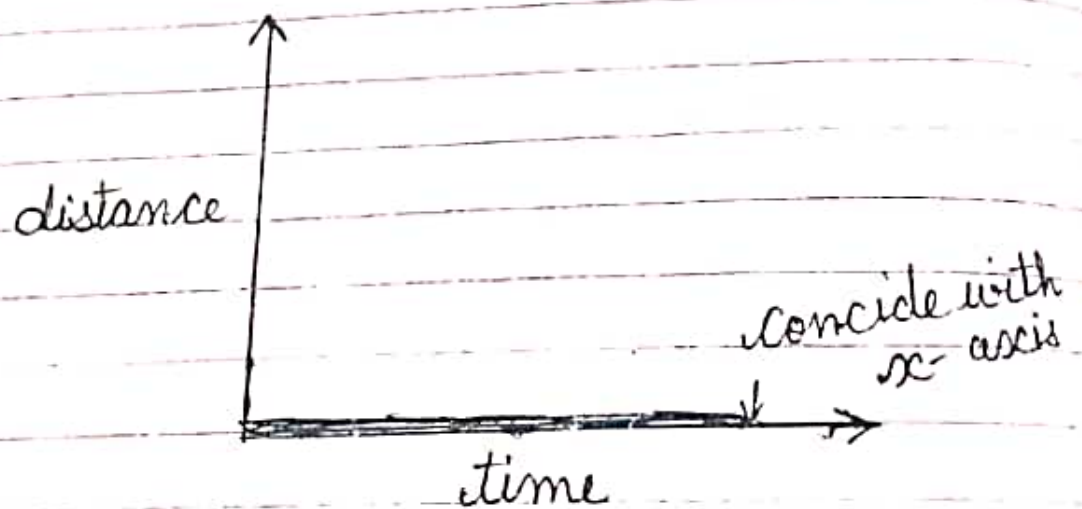time = 15 min = 15 × 60 s = 900 s

Distance = speed × time
= 2 m/s × 900 s
= 1800 m

= $\frac{1800}{1000}$ Km = 1.8 Km

Q7 show the shape of the distance time
graph for the motion in the following
cases.

Ans (i) A car moving with a constant speed

Distance the graph

Distance

Time

(ii) A car parked on a side road.

distance

concide with
x - axis

time

Q14 These exercise will be done in textbook
under the guidance of teacher.

___ X ___ X ___ X ___