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Shree Swaminarayan Gurukul, Zundal

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CHAPTER – 7

Getting to know Plants

KEYPOINTS:

Plants are usually grouped into herbs, shrubs, trees, creepers and climbers.

Herbs: Have soft, green and weak stems. Example: rice, wheat, maize, sunflower, mint, etc.

Shrubs: They are bushy and have hard stems that do not bend easily. These are plants with the stem branching out near the base.

Example: lemon, China rose, jasmine, Nerium, etc.

Trees: These are big plants which have a tall and strong stem (trunk). Stems have branches in the upper part, much above the ground. Live for many years. Example: mango, neem, banyan, coconut, etc.

Climbers: Have weak stems and cannot stand erect. They take the support of other trees and climb on them. Example: pea, grape, vine, etc.

Creepers: Plants which creep on the ground and spread out. Example: pumpkin and watermelon.

VERY SHORT ANSWER QUESTIONS

Q-1: Name the male parts of flower.

Ans: (a) Anther (b) Filament:

Q-2: Name the female part of flower.

Ans: The female organ of the flower. It consists three parts: Style, Stigma, and Ovary.

Q-3: **Define Stamens:** These are long, thin and needle-like structures. These are male organs of the flower. It consists of two parts: Anther, Filament.

Q-4: **Define Carpel:** It is a flask-shaped organ in the center of the flower. It is the female organ of the flower. It consists three parts: Style, Stigma, and Ovary.

SHORT ANSWER QUESTIONS

Q-1:What are the types of roots?

Ans: (a) Root system(i) Tap Root Example: mustard, neem, rose, etc.**(ii) Fibrous Root.** Example: wheat, maize, etc.

Q-2: Write functions of root system

Ans: Functions of root system:

- (i) Roots absorb water and nutrients from the soil.
- (ii) Roots help the plant to stand erect.
- (iii) Roots check soil erosion.
- (iv) Roots store food.
- (v) Prop roots offer extra support.

Q-3:Write the function of leaf:

The function of Leaf:(i) Transpiration: Process of losing water by the leaves of a plant.

(ii) Preparation of food by the process of photosynthesis.

(iii) Flower: It is the reproductive organ of the plant.

Q-4: Write the function of flowers:

Ans:The function of Flowers:

- (i) Help in reproduction.
- (ii) These become fruits that store food and seeds.
- (iii) Modified flowers like cauliflower, broccoli are rich sources of vitamins.

TEXTUAL EXERCISE:

Question 1. Correct the following statements and rewrite them in your notebook.

- (a) Stem absorbs water and minerals from the soil.
- (b) Leaves hold the plant upright.

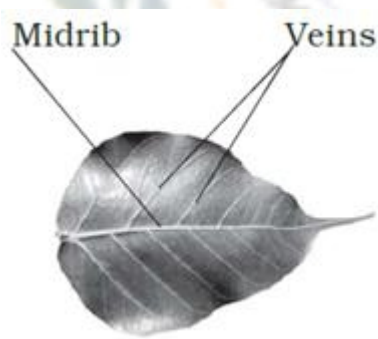
- (c) Roots conduct water to the leaves
- (d) The number of petals and sepals in a flower is always equal.
- (e) If the sepals of a flower are joined together, its petals are also joined together, its petals are also joined together.
- (f) If the petals of a flower are joined together, then the pistil is joined to the petals.

Answer: The correct statements are

- (a) Roots absorb water and minerals from the soil.
- (b) Stem holds the plant upright.
- (c) Stem conducts water to the leaves.
- (d) The number of petals and sepals in a flower is usually the same.
- (e) If the sepals of flower are joined together, its petals are not necessarily joined together.
- (f) If the petals of a flower are joined together, then the pistil is not necessarily joined to the petals.

Question2. Draw (a) Leaf (b) A taproot (c) A flower, you have studied for Table 7.3.

Answer:



Leaf Tap



root



Flower

Question3. Can you find a plant in your house or in your neighborhood, which has a long but a weak stem? Write its name. In which category would you classify it?

Answer: Yes, Lauki (guard) plant. It needs support. It comes under the category of climber plant.

Question4. What is the function of a stem in a plant?

Answer: Function of stem:

Gives support to plant.

- (i) Conducts water and minerals from roots to leaves.
- (ii) Conducts food from leaves to other parts of the plant.

Question5. Which of the following leaves have reticulate venation?

Wheat, Tulsi, Maize, Grass, Coriander(dhania), China rose.

Answer: Tulsi, Coriander(dhania) and China rose have reticulate venation.

Question6. If a plant has fibrous root, what types of venation do its leaves likely to have?

Answer: Parallel venation.

Question7. If a plant has leaves with reticulate venation, the kind of roots will it have?

Answer: Tap root,

Question8. Is it possible for you to recognize the leaves without seeing them? How?

Answer: Yes, by taking an impression of the leaf. Put paper on the leaf. Hold the pencil tip sideways and rub it on the portion of paper having leaf below. You get impression of leaf with some lines on it. These lines help us to recognize the types of leaf.

Question9. Write the name of the parts of flower.

Answer: Parts of flower:

- (i) Sepals (Calyx), (ii) Petals (Corolla), (iii) Stigma, (iv) Style, (v) Anther,
- (vi) Stamens

(Androecium), (vii)Pistil (Gynoecium)

Question10. Which of the following plants have you seen? Of those that you have seen, which one have flowers?

Grass, Maize, Wheat, Chili, Tomato, Tusli, Pipal, Shisham, Banana, Mango, Jamun, Guava, Pomegranate, Papaya, Banana, Lemon, sugarcane, Potato, Groundnut.

Answer: I have seen all these plants. Plants with flower are

Maize, Chili, Tomato, Tulsi, Shishma, Mango, Lemon, Jamun, Guava, Pomegranate, Papaya, Banana, and Lemon.

Question11. Name the part of the plant which produces its food. Name this process.

Answer: Leaves of green plants produce food. The process is called photosynthesis.

Question12. In which part of flower you likely to find the ovary?

Answer: It is the lowermost and swollen part of the pistil.

Question13. Name two flowers, each with joined and separated sepals.

Answer: Joined sepals- Rose, Lotus

Separate sepals- China rose, mustard flower.

CHAPTER – 8 Body Movements

KEYPOINTS:

The human skeleton is made of:

- **Bones:** - Bone is the unique combination of flexibility and stiffness.
- **Cartilages:** - It is a flexible bone which gives support to bodyparts like ears and nose. It also connects bones together.
- **Ligaments:** - Ligaments may be in the form of cords or sheets.

Skull: It protects the brain. It is a rigid box made up of plates of bone firmly joined together

Rib cage: It is a flexible case of ribs. Each rib curves round the side of the chest from the backbone and is joined in front to a plate of bone called sternum. Ribs are connected to one another by the muscles. Two lowermost pairs of ribs are called ‘floating ribs’.

VERY SHORT ANSWER QUESTIONS

Q-1: Define Joints: The point where two bones meet. Allow movement to take place. Bones are held together by ligaments.

Q-2: Define Immovable or Fixed Joints: The bones cannot move at these joints. Example: bones in skull, joint between upper jaw and rest of skull.

Q-3. Name the type of joint of your hand which help you to grasp a badminton racquet.

Ans. Hinge joint allow movement in one plane only , that is up and down or backward and forward , due to this you are able to hold racquet properly.

Q-4. What would have happened if our backbone was made of one

single bone?

Ans. If our backbone would have been made of a single bone we would not have been able to bend our waist forward or backward.

SHORT ANSWER QUESTIONS

1. Name all type of movable joints.

Ans: Type of movable joints are:

- (i) **Hinge Joints:**. Example: elbow joints, knee joints and the joint between phalanges of fingers and toes.
- (ii) **Ball and Socket Joints:**Example: the shoulder.
- (iii) **Gliding Joints:** Example: bones inside wrists and feet.
- (iv) **Pivotal Joints:** . It allows the head to move backwards and forward and turn to the right and left.

2. Boojho fell off a tree and hurt his ankle. On examination the doctor confirmed that the ankle was fractured. How was it detected?

Ans. The doctor on observing a swelling at the ankle must have prescribed an X-ray of the ankle. After examining the x-ray photograph doctor confirms the internal injuries or fractures in the ankle.

3. Bones are hard structures and cannot be bent. But, we can still bend our elbow, knee, etc. How is this possible?

Ans. The elbow and knees does not have a single bone. Instead they are made of two or more bones joined together. This is known as hinge joint that allows only a back and forth movement. The knee has ball and socket joint which allows movement in all directions.

4. Earthworms are known as ‘farmer’s friends’. Why?

Ans. An earthworm eats the materials available in soil to burrow themselves , leaving behind the casts and canals making the soil airy, soft and fertile good for plant growth.

LONG ANSWER QUESTIONS

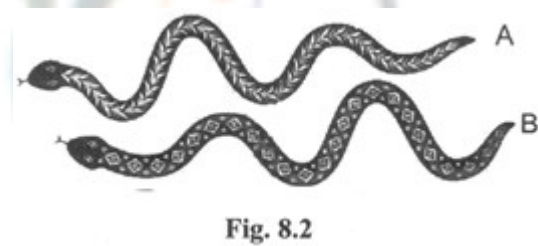
1. How is the skeleton of a bird well-suited for flying?



Ans. The skeleton of a bird is well suited for flying because (i) the skeleton in a bird is strong but the bones are light in weight and hollow inside. (ii) The fore-limbs in a bird are modified into wings . Wings are supported with strong muscles. (iii) The hind-limbs or the legs are with a claw which is modified to hold the support for perching.(iv) The body is light in weight and streamlined- narrow in front and at the back ,broad in the middle which reduces resistance from air.

Birds fly by flapping their wings. when a bird is in flight it keeps its hind-limbs close to its body. While landing , it brings out the hind-limbs and keeps the wings open and stationary. Folding of the limbs while in air reduces resistance from air.

2. In Fig. 8.2 there are two snakes of the same size slithering on sand. Can you identify which of them would move faster and why?



Ans. A snake forms loops in its body while slithering which gives it a forward push by pressing against the ground. The snake having more number of loops will move much faster than the snake having less number of loops. Therefore, snake A will move faster than snake B.

TEXTUAL EXERCISE:

Question 1. Fill in the blanks:

- Joints of the bones help in the ----- of the body.
- A combination of bones and cartilages forms the ----- of the body.
- The bones at the elbow are joined by a----- joint.
- The contraction of the ----- pulls the bones during movement.

Answer: (a) Joints of the bones help in the **movement** of the body.
 (b) A combination of bones and cartilages forms the **skeleton** of the

body.

(c) The bones at the elbow are joined by **hinge** joint.

(d) The contraction of the **muscle** pulls the bones during movement.

Question 2. Indicate True (T) and False (F) among the following sentences:

(a) The movement and locomotion of all animals is exactly the same.

(b) The cartilages are harder than bones.

(c) The finger bones do not have joints.

(d) The fore arm has two bones.

(e) Cockroaches have an outer skeleton.

Answer: (a)F, (b)F, (c)F, (d)T, (e)T

Question 3. Match the items in Column I with one or more items of Column II.

Column I	Column II
Upper jaw	have fins on the body.
Fish	has an outer skeleton.
Ribs	can fly in the air.
Snail	is an immovable joint
Cockroach	protect the heart. Shows very slow movement. Have streamlined body.

Answer:

Column I	Column II
Upper jaw	Is an immovable joint.
Fish	Have fins on the body, have a streamlined body.
Ribs	Protect the heart.
Snail	Has an outer skeleton, Shows very slow movement.
Cockroach	Has an outer skeleton, Can fly in the air.

Question 4. Answer the following:

- (a) What is a ball and socket joint?
- (b) Which of the skull bones are movable?
- (c) Why can our elbow not move backwards?

Answer: (a) The rounded end of bone fits into the cavity of the other bone. Such a joint allows movements in all directions.

- (b) Lower jaw
- (c) Elbow cannot move backwards, because it has hinge joint which allows movement in one direction.

