CHAPTER

2

DIVERSITY IN THE LIVING WORLD

CLASS 6TH

NCERT EXERCISE AND SOLUTIONS - SCIENCE

P1 P2

Q. 1. Here are two types of seeds. What differences do you find among the roots and leaf venation of their plants?

Wheat Kidney beans

ANSWER:-

Differences in Roots and Leaf Venation:

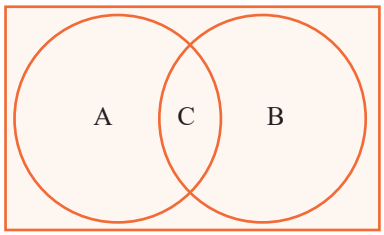
(a) Wheat

- **Roots:** Wheat has **fibrous roots**, with many thin, branched roots spreading from the stem base.
- **Leaf Venation:** Wheat leaves have **parallel venation**, where veins run parallel along the leaf.

(b) Kidney Beans

- **Roots:** Kidney beans have a **taproot system**, with one main root growing downward and smaller roots branching off.
- **Leaf Venation:** Kidney bean leaves have **reticulate venation**, forming a network of branching veins.

Q. 2. Names of some animals are given below. Group them based on their habitats. Write the names of aquatic animals in the area marked 'A' and terrestrial animals in the area marked 'B'. Enter the names of animals living in both habitats in part 'C'. Horse, Dolphin, Frog, Sheep, Crocodile, Squirrel, Whale, Earthworm, Pigeon, Tortoise



ANSWER:-

Grouping Animals Based on Their Habitats

Aquatic Animals (Water - Area A):

- ✓ Dolphin
- ✓ Whale

Terrestrial Animals (Land - Area B):

- ✓ Horse
- ✓ Sheep
- ✓ Squirrel
- ✓ Pigeon
- ✓ Earthworm

Animals Living in Both Water & Land (Area C):

- ✓ Frog
- ✓ Crocodile
- ✓ Tortoise

Q. 3. Manu's mother maintains a kitchen garden. One day, she was digging out radish from the soil. She told Manu that radish is a kind of root. Examine a radish and write what type of root it is. What type of venation would you observe in the leaves of radish plant?

ANSWER:-

A radish has a taproot system, where a thick main root grows downward and stores food for the plant. Its leaves have reticulate venation, where veins form a network-like pattern with smaller veins branching from the main vein.

Q. 4. Look at the image of a mountain goat and a goat found in the plains. Point out the similarities and differences between them. What are the reasons for these differences?

Mountain Goat

Goat found in the Plains

ANSWER:-

Similarities and Differences Between Mountain Goat and Plains Goat

Similarities:

- **Species:** Both belong to the same goat family.

- **Diet:** Both are **herbivores** and eat plants.
- **Body Structure:** Both have **hooves and horns**.

Differences:

Feature	Mountain Goat	Plains Goat
Fur and Coat	Thick, long fur for cold mountain temperatures.	Shorter fur for warm climates.
Body Build	Stocky and muscular, adapted for climbing.	Leaner build for open plains.
Hooves	Rough-textured hooves for gripping rocks.	Hooves suited for walking on grass.
Horns	Curved, sharp horns for defense.	Smaller, less pronounced horns.
Adaptation	Thick fur and strong muscles for cold mountains, hooves help in climbing.	Short fur and a lighter body for warm, flat areas.
Defense	Uses strong build and sharp horns against predators.	Relies on speed and agility to escape predators.

Q. 5. Group the following animals into two groups based on any feature other than those discussed in the chapter - cow, cockroach, pigeon, bat, tortoise, whale, fish, grasshopper, lizard.

ANSWER:-

Animals Based on Their Habitat

Terrestrial Animals (Live on Land):

- Cow
- Cockroach
- Pigeon
- Bat
- Tortoise
- Grasshopper
- Lizard

Aquatic Animals (Live in Water):

- Whale
- Fish

Q. 6. As the population grows and people want more comfortable lives, forests are being cut down to meet various needs. How can this affect our surroundings? How do you think we can address this challenge?

ANSWER:-

Impact of Deforestation & Solutions

Impact of Deforestation

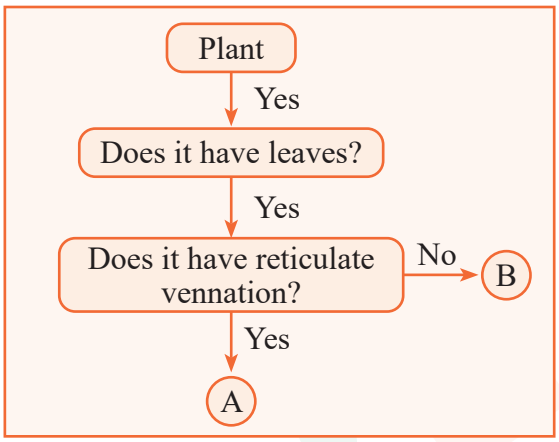
- **Loss of Biodiversity:** Animals lose their homes, reducing species diversity.
- **Climate Change:** Fewer trees mean more carbon dioxide, increasing global warming.
- **Soil Erosion:** Without trees, soil becomes loose and washes away easily.

- **Water Cycle Disruption:** Deforestation affects rainfall and water availability.
- **Loss of Livelihoods:** Many people depend on forests for their survival.

How to Address the Problem

- **Reforestation:** Planting trees to replace lost ones.
- **Sustainable Logging:** Cutting trees responsibly without harming nature.
- **Protected Areas:** Creating national parks and wildlife sanctuaries.
- **Community Involvement:** Encouraging locals to help in conservation.
- **Laws & Enforcement:** Preventing illegal tree cutting.
- **Education & Awareness:** Teaching people about the importance of forests.

Q. 7. Analyse the flowchart. What can be examples of 'A' and 'B'?



ANSWER:-

Examples of Leaf Venation Types

- **Group A (Reticulate Venation):** Veins form a network-like pattern.
  Examples: Mango, Hibiscus, Rose.
- **Group B (Parallel Venation):** Veins run parallel to each other.
  Examples: Wheat, Maize, Grass.

Q. 8. Raj argues with his friend Sanjay that "Gudhal (hibiscus) plant is a shrub". What questions can Sanjay ask for clarification?

ANSWER:-

Questions Sanjay Can Ask for Clarification:

- **What is the height of the Gudhal (Hibiscus) plant?**
  (Since shrubs are medium-sized plants)
- **What is the nature of its stem?**
  (Shrubs have hard but not very thick stems)
- **How do its branches grow?**
  (Shrubs usually have branches starting near the ground)

Q. 9. Based on the information in the table, find out examples of these plants for each group.

Group	Type of seed	Type of root	Examples
A	Dicot	Taproot	
B	Monocot	Fibrous roots	

(a) What other similarity do plants of group have?

(b) What other similarity do plants of group have?

ANSWER:-

Classification of Plants Based on Roots and Venation

Group A (Dicot, Taproot):

- **Examples:** Mango, Rose, Hibiscus
- **Similarity:** Leaves have **reticulate venation** (veins form a network).

Group B (Monocot, Fibrous Roots):

- **Examples:** Wheat, Maize, Rice
- **Similarity:** Leaves have **parallel venation** (veins run parallel).

Q. 10. Observe the labelled part of a duck in the picture given below. What differences do you observe in the feet of the duck compared to the other birds? Which activity would the duck be able to perform using this part?

(a) Duck (b) Pigeon

ANSWER:-

Differences in the Feet

(a) Duck: Has **webbed feet**.

(b) Pigeon: Has **feet with separate toes**.

Activities a Duck Can Perform with Webbed Feet

- **Swimming:** Webbed feet help ducks paddle through water efficiently.
- **Walking on Muddy or Wet Surfaces:** Webbed feet provide stability and prevent sinking.
- **Adaptation for Swimming:** Webbed feet allow ducks to move smoothly in water.