NCERT Solutions for Class 6 (Curiosity) Chapter 2 Diversity in the Living World

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

(a) Wheat

(b) Kidney beans

Answer:

Differences in Roots and Leaf Venation

(a) Wheat

Roots: Wheat has fibrous roots. This type of root system consists of many thin, branched roots that spread out from the base of the stem.

Leaf Venation: Wheat leaves exhibit parallel venation. In this pattern, the veins run parallel to each other along the length of the leaf.

(b) Kidney Beans

Roots: Kidney beans have a taproot system. This consists of one main root that grows vertically downward with smaller side roots branching off from it.

Leaf Venation: Kidney bean leaves have reticulate venation. This pattern forms a network of veins that branch out from a central midrib and spread across the leaf.

Question 2: Names of some animals are given below. Group them based on their habitats. Write the names of aquatic animals in the area marked 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 (Area A):

- Dolphin
- Whale

Terrestrial Animals (Area B):

- Horse
- Sheep
- Squirrel
- Pigeon
- Earthworm

Animals Living in Both Habitats (Area C):

- Frog
- Crocodile
- Tortoise

Question 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 plants?

Answer : A radish is an example of a taproot system, which is characterised by a main root that grows vertically downward and is larger than the other roots. This type of root stores food and nutrients for the plant.

The leaves of a radish plant exhibit reticulate venation. In this type of venation, the veins form a network-like pattern on the leaf, with smaller veins branching off from the main vein.

Question 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?
(a) Mountain Goat
(b) Goat found in the plains

(a) Mountain Goat

(b) Goat found in the plains

Answer: Similarities and differences between Mountain Goats and Plains Goats

Similarities:

- Species: Both are goats and belong to the same family.
- Diet: Both are herbivores and eat plants.
- Body Structure: Both have hooves and horns.

S. No	Mountain Goat	Plains Goat
1	Has thick, long fur to protect against cold mountain temperatures.	Has shorter fur suited for warmer climates.
2	Generally stockier and more muscular, adapted for climbing rocky terrains.	The leaner build is suitable for flat, open areas.
3	Specialised hooves with a rough texture for better grip on rocky surfaces.	Hooves more suited for walking on flat, grassy lands.
4	Often have curved, sharp horns for defence.	Horns can vary but are usually less pronounced than those of mountain goats.
5	Needs thick fur and strong muscles to live in cold, rocky mountains. Specialised hooves help in climbing.	Lives in warmer, flat areas, so it has shorter fur and a body shape good for walking on grass.
6	Uses its strong build and sharp horns to defend against predators in the mountains.	Relies on being fast and agile to escape from predators on the plains.

Question 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 : These animals are based on their habitat - animals that live on land (terrestrial) and animals that live in water (aquatic).

Terrestrial Animals:

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

Aquatic Animals:

- Whale
- Fish

Question 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 :

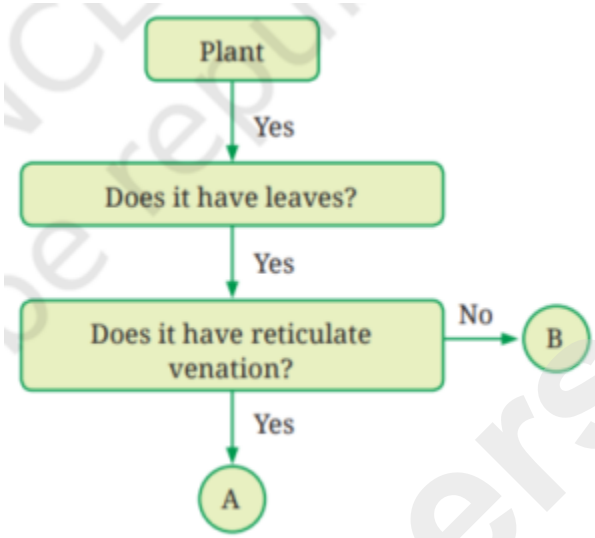
Impact of Deforestation

- **Loss of Biodiversity:** Many species lose their habitats, leading to a decrease in biodiversity.
- **Climate Change:** Trees absorb carbon dioxide. Cutting them down increases the concentration of greenhouse gases, contributing to global warming.
- **Soil Erosion:** Trees help in holding the soil together. Without them, the soil becomes loose and prone to erosion.
- **Disruption of Water Cycles:** Trees play a significant role in the water cycle. Deforestation can lead to changes in rainfall patterns.
- **Loss of Livelihoods:** Many communities depend on forests for their livelihood. Deforestation can disrupt their way of life.

Addressing the Challenge

- Reforestation and Afforestation: Planting new trees to replace those that have been cut down.
- Sustainable Logging Practices: Ensuring that logging is done in a way that does not harm the ecosystem.
- Protected Areas: Establishing more national parks and wildlife sanctuaries to protect existing forests.
- Community Involvement: Engaging local communities in forest conservation efforts.
- Legislation: Implementing and enforcing laws that prevent illegal logging and deforestation.
- Education and Awareness: Educating people about the importance of forests and how they can help in conservation efforts.

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



Answer:

Examples of 'A'

These are plants that have reticulate venation in their leaves.

Examples: Mango, Hibiscus, Rose.

Examples of 'B'

These are plants that do not have reticulate venation (i.e., they have parallel venation).

Examples: Wheat, Maize, Grass.

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

Answer : Questions that Sanjay can ask for Clarification

What is the height of the Gudhal (hibiscus) plant? (Shrubs are typically medium-sized plants)

What is the nature of its stem? (Shrubs have hard but not very thick stems)

How do the branches of the Gudhal plant appear? (Shrubs typically have branches that arise close to the ground)

Is the stem of the Gudhal plant woody? (Shrubs often have woody stems)

Question 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 similarities do plants of group A have?

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

Answer:

Group A (Dicot, Taproot)

Examples: Mango, Rose, Hibiscus

Group B (Monocot, Fibrous roots)

Examples: Wheat, Maize, Rice

(a) Similarity of Plants in Group A:

Plants in Group A (dicots) typically have leaves with reticulate venation.

(b) Similarity of Plants in Group B:

Plants in Group B (monocots) generally have leaves with parallel venation.

Question 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

Duck	**Pigeon**
has webbed feet	Does not have webbed feet; has regular bird feet with separate toes.

Activities the Duck Can Perform with Webbed Feet

Swimming: The webbed feet help the duck to paddle through water efficiently.

Walking on Muddy or Wet Surfaces: Webbed feet stabilise and prevent the duck from sinking.

The webbed feet of a duck are specially adapted for swimming, allowing it to move smoothly in water.