

Class 6 Science – Chapter 2

Diversity in the Living World

WORKSHEET

Name: _____

Class/Section: _____

Date: _____

Instructions: Answer all questions. Write neatly. Draw labelled diagrams wherever asked. Read each question carefully.

A. Multiple Choice Questions

1. Which of the following is usually the tallest type of plant?

- a) Herb
- b) Shrub
- c) Tree
- d) Creeper

2. Plants with weak stems that need support to grow upward are called:

- a) Herbs
- b) Climbers
- c) Trees
- d) Shrubs

3. Plants with weak stems that grow along the ground are called:

- a) Creepers
- b) Climbers
- c) Trees
- d) Herbs

4. The arrangement of veins in a leaf is called:

- a) Root system
- b) Venation
- c) Germination
- d) Adaptation

5. Which type of venation is commonly seen in leaves such as grass?

- a) Reticulate
- b) Parallel
- c) Spiral
- d) Branched

6. Which root system has one main root with smaller side roots?

- a) Fibrous root
- b) Taproot
- c) Aerial root
- d) Adventitious root

7. Which root system consists of many thin roots of nearly similar size?

- a) Taproot
- b) Fibrous root
- c) Prop root
- d) Storage root

8. Plants with one cotyledon are generally called:

- a) Dicots
- b) Monocots
- c) Shrubs
- d) Herbs

9. Which of the following is an adaptation of a cactus?

- a) Broad floating leaves
- b) Spines and a thick stem
- c) Webbed feet
- d) Thick fur

10. Which animal adaptation helps a duck swim?

- a) Sharp claws
- b) Webbed feet
- c) Hump
- d) Thick fur

B. Fill in the Blanks

1. The variety of living organisms found on Earth is called _____.
2. The arrangement of veins in a leaf is called _____.
3. A root system with one main root is called a _____ root system.
4. A root system made up of many thin roots is called a _____ root system.
5. Plants with two cotyledons are called _____.
6. Plants with one cotyledon are called _____.
7. A plant with a weak stem that grows along the ground is called a _____.
8. The special features that help an organism survive in its surroundings are called _____.
9. A cactus is adapted to live in a _____ habitat.
10. Areas protected for the conservation of plants and animals help protect _____.

C. True or False

1. All plants have the same type of roots. (True / False)
2. Reticulate venation means that the veins form a network. (True / False)
3. Parallel venation is commonly found in many monocot plants. (True / False)
4. Creepers usually need support to grow upward. (True / False)
5. A cactus has adaptations that help it survive in dry conditions. (True / False)
6. Animals living in mountains may have special adaptations for cold conditions. (True / False)
7. Webbed feet help ducks move through water. (True / False)
8. Biodiversity means only the variety of animals in a place. (True / False)
9. Sacred groves can help conserve biodiversity. (True / False)
10. The habitat of an organism is the place where it lives. (True / False)

D. Match the Following

Column A	Column B
1. Taproot	A. Webbed feet
2. Fibrous root	B. One main root
3. Cactus	C. Community-protected natural area
4. Duck	D. Many thin roots
5. Sacred grove	E. Thick stem and spines

Answers: 1-____ 2-____ 3-____ 4-____ 5-____

E. Very Short Answer Questions

1. What is biodiversity?

2. What is a habitat?

3. Name the two main types of leaf venation discussed in this chapter.

4. Name the two main types of root systems discussed in this chapter.

5. What is a cotyledon?

6. Give one example of a tree and one example of a herb.

7. What is an adaptation?

8. Why do climbers need support?

F. Short Answer Questions

1. Differentiate between a herb and a shrub.

2. Differentiate between a climber and a creeper.

3. Explain reticulate venation and parallel venation with one example each.

4. Explain the difference between a taproot and a fibrous root.

5. How are leaf venation and root type related to monocots and dicots?

6. Describe two adaptations of a cactus that help it survive in a dry habitat.

7. Why do animals living in mountains need special adaptations?

8. How do webbed feet help a duck?

9. Why is it important to protect biodiversity?

10. What are sacred groves and how can they help protect biodiversity?

G. Case-Based Questions

Case Study 1

Situation: Riya observes two plants. Plant A is short and has a soft green stem. Plant B is taller and has a hard woody stem.

a) What type of plant is Plant A likely to be?

b) What type of plant is Plant B likely to be?

c) Give one example of each.

Case Study 2

Situation: A student observes a leaf with veins forming a network. The plant also has a main root with smaller side roots.

a) What type of venation does the leaf have?

b) What type of root system does the plant have?

c) Is this combination commonly associated with monocots or dicots?

Case Study 3

Situation: A duck spends much of its time in water. Its feet have skin joining the toes.

a) What is this feature called?

b) How does it help the duck?

c) What does this example show about adaptations?

H. Assertion and Reason

For each question, decide whether the Assertion (A) and Reason (R) are true and whether R correctly explains A.

1. **Assertion (A):** Cacti have spines instead of broad leaves.

Reason (R): Because spines reduce water loss and protect the plant.

Answer: _____

2. **Assertion (A):** Ducks have webbed feet.

Reason (R): Because webbed feet help them swim efficiently.

Answer: _____

3. **Assertion (A):** Sacred groves can help conserve biodiversity.

Reason (R): Because they may protect plants, animals and other organisms in natural habitats.

Answer: _____

4. **Assertion (A):** Climbers have weak stems.

Reason (R): Because they use support to grow upward.

Answer: _____

I. Challenge Questions

1. A plant has parallel venation and a fibrous root system. What can you infer about its group? Explain.

2. Why would a cactus not be well suited to living in a very wet habitat? Give two reasons.

3. Two plants look different but both live in the same habitat. Explain why they may still have different adaptations.

4. Imagine a local forest is removed. Write three possible effects this could have on biodiversity.

5. A leaf has reticulate venation. Can you conclude with certainty that it belongs to a dicot plant? Explain why observations should be considered together.

ANSWER KEY

A. MCQs

1-c | 2-b | 3-a | 4-b | 5-b | 6-b | 7-b | 8-b | 9-b | 10-b

Fill in the blanks

1. biodiversity
2. venation
3. taproot
4. fibrous
5. dicots
6. monocots
7. creeper
8. adaptations
9. desert/dry
10. biodiversity

True/False

1. False
2. True
3. True
4. False
5. True
6. True
7. True
8. False
9. True
10. True

D. Match the Following

1-B | 2-D | 3-E | 4-A | 5-C

E. Very Short Answers

1. Biodiversity is the variety of living organisms in a place or on Earth.
2. A habitat is the place and surroundings where an organism lives.
3. Reticulate and parallel venation.
4. Taproot and fibrous root systems.
5. A cotyledon is the seed leaf present in a seed.
6. Examples: mango/tree and grass/herb.
7. An adaptation is a feature or characteristic that helps an organism survive in its surroundings.
8. Climbers have weak stems and need support to grow upward.

F. Short Answers

1. A herb is usually small with a soft green stem; a shrub is usually larger and has woody stems branching near the base.
2. A climber grows upward with support; a creeper has a weak stem and spreads along the ground.
3. Reticulate venation forms a network, e.g. mango. Parallel venation has veins running nearly parallel, e.g. grass.
4. A taproot has one main root with side roots; a fibrous root system has many thin roots of similar size.
5. Many dicots commonly have reticulate venation and taproots, while many monocots commonly have parallel venation and fibrous roots. These are common patterns, not a rule for every plant.
6. Spines reduce water loss and protect the plant; the thick green stem stores water and carries out photosynthesis.
7. They may face low temperatures, strong winds, snow and limited food, so special features help them survive.
8. Webbed feet push against water and help the duck swim.
9. Biodiversity provides food, medicines, materials and ecosystem services and keeps ecosystems functioning.
10. Sacred groves are natural areas protected by local communities/traditions; they can preserve plants, animals and habitats.

G. Case-Based Questions

1. 1) a) Herb b) Tree c) Examples: grass/mint; mango/neem.
2. 2) a) Reticulate b) Taproot c) Commonly associated with dicots.
3. 3) a) Webbed feet b) They help the duck paddle/swim c) Adaptations are features that help organisms survive in their habitats.

H. Assertion and Reason

1. 1. Both A and R are true, and R explains A.
2. 2. Both A and R are true, and R explains A.
3. 3. Both A and R are true, and R explains A.
4. 4. Both A and R are true, and R explains A.

I. Challenge Questions

1. It is likely a monocot based on the common combination of parallel venation and fibrous roots.
2. A cactus is adapted to dry conditions; in very wet conditions its water-saving adaptations are less useful and excess moisture may harm it.
3. Different organisms can have different structures and ways of surviving even in the same habitat because their needs and body structures differ.
4. Possible effects include loss of habitats, decline in plant and animal populations, and disruption of food chains/ecosystem functions.
5. Reticulate venation alone is not enough for every identification. Root type, cotyledons and other features should also be considered.