# Chapter 3: Diversity in Living Things & Their Classification

## EXERCISE [PAGE 25]

#### Exercise | Q 1 | Page 25

Match the pairs.

A Group	B Group
(a) Amphibian	(1) A Monkey
(b) Vertebrate	(2) A Snake
(c) With scales	(3) A Frog

## SOLUTION

A Group	B Group
(a) Amphibian	(3) A Frog
(b) Vertebrate	(1) A Monkey
(c) With scales	(2) A Snake

## Exercise | Q 2.1 | Page 25

Who is the odd one out?

- 1. Fungus
- 2. mushroom
- 3. chrysanthemum
- 4. spirogyra

## SOLUTION

Fungus, mushroom, chrysanthemum, spirogyra -Chrysanthemum

## **Explanation:**

Chrysanthemum is the odd one out because it is a flowering plant whereas the rest of them are non-flowering.

#### Exercise | Q 2.2 | Page 25

Who is the odd one out?

- 1. Mango
- 2. banyan
- 3. palm





## 4. chick pea

## SOLUTION

Mango, banyan, palm, chick pea - Chick pea

#### Explanation:

chick pea is the odd one out because it is a type of herb whereas the rest of them are types of trees.

## Exercise | Q 2.3 | Page 25

Who is the odd one out?

- 1. Grape
- 2. orange
- 3. lemon
- 4. hibiscus

#### SOLUTION

Grape, orange, lemon, hibiscus - Grape

#### **Explanation:**

Grape is the odd one out because it is a climber while the rest of them are shrubs.

## Exercise | Q 2.4 | Page 25

Who is the odd one out?

- 1. Sunflower
- 2. banyan
- 3. jowar
- 4. bajra

## SOLUTION

Sunflower, banyan, jowar, bajra - Banyan

#### **Explanation:**

Banyan is the odd one out because it is a perennial plant whereas the rest of them are annual plants.

#### Exercise | Q 2.5 | Page 25

Who is the odd one out?

- 1. Guava
- 2. radish
- 3. carrot
- 4. beetroot

SOLUTION

Guava, radish, carrot, beetroot- Guava





#### **Explanation:**

Guava is the odd one out because it is a perennial plant whereas the rest of them are biennial plants.

#### Exercise | Q 2.6 | Page 25

Who is the odd one out?

- 1. Deer
- 2. fish
- 3. man
- 4. worms

#### SOLUTION

Deer, fish, man, worms- Worm

#### **Explanation:**

worms are the odd one out because it is an invertebrate whereas the rest of them are vertebrates.

## Exercise | Q 3.1 | Page 25

What is the difference? Flowering plants – non-flowering plants

#### SOLUTION

Flowering Plants	Non-flowering Plants
They have flowers and produce seeds and fruits.	They do not produce flowers, seeds, and fruits
They have structures like roots, stems, and leaves.	They may or may not have structures like roots, stems, and leaves.
Ex- Tulip and Mango	Ex- Ferns and Mosses

## Exercise | Q 3.2 | Page 25

What is the difference?

A tree – a shrub

SOLUTION





Trees	Shrubs
1. Plants that grow very tall and have strong, hard stems or trunks are called trees.	Plants that grow up to a medium height are called shrubs.
2. They have branches that are at some height above the ground.	They have branches that are very close to the ground.
3. Mango tree, neem tree, etc.	Oleander, hibiscus, etc.

## Exercise | Q 3.3 | Page 25

What is the difference? Vertebrates – invertebrates

## SOLUTION

Vertebrates	Invertebrates
They have a backbone made up of vertebrae.	They do not have a backbone.
They can be cold-blooded or warm- blooded.	They are always cold-blooded.
They have a well-developed brain.	They do not have a well- developed brain.
Example: frog and lizard	Example: Earthworm and snail

## Exercise | Q 4.1 | Page 25

True or false? The snail is an aquatic animal.

- 1. True
- 2. False

## SOLUTION

The snail is an aquatic animal.- False





## Exercise | Q 4.2 | Page 25

True or false?

Amphibians can live in the air and in water.

- 1. True
- 2. False

## SOLUTION

Amphibians can live in the air and in water.- False

#### Exercise | Q 4.3 | Page 25

True or false?

The function of the brain is well developed in vertebrate animals.

- 1. True
- 2. False

SOLUTION

The function of the brain is well developed in vertebrate animals.-True

## Exercise | Q 4.4 | Page 25

True or false? The amoeba is a multicellular animal.

- 1. True
- 2. False

## SOLUTION

The amoeba is a multicellular animal.- False

**Exercise | Q 5.1 | Page 25** Write two names for the following: A flowering plant

## SOLUTION

A flowering plant-Rose and lotus

**Exercise | Q 5.2 | Page 25** Write two names for the following: A non-flowering plant

#### SOLUTION

A non-flowering plant-Ferns and mosses

Exercise | Q 5.3 | Page 25 Write two names for the following: A tree





#### SOLUTION

A tree- Mango and neem

Exercise | Q 5.4 | Page 25 Write two names for the following: A shrub

#### SOLUTION

A shrub-Lemon and henna

**Exercise | Q 5.5 | Page 25** Write two names for the following: A creeper

#### SOLUTION

A creeper- Money plant and cucumber

**Exercise | Q 5.6 | Page 25** Write two names for the following: An annual plant

## **SOLUTION**

An annual plant-Marigold and corn

**Exercise | Q 5.7 | Page 25** Write two names for the following: A biennial plant

#### SOLUTION

A biennial plant- Carrots and parseley

**Exercise | Q 5.8 | Page 25** Write two names for the following: A perennial plant

#### SOLUTION

A perennial plant-Asparagus and artichoke

Exercise | Q 6.1 | Page 25 Write an answer to the following. What are the parts of a plant?

#### SOLUTION

The various parts of the plants are:





- Roots: They absorb water and minerals from the soil and also anchor the plant firmly in the soil.
- Stems: Spread out branches to bear leaves, flowers, and fruits, conducts water and minerals to different plant parts, and perform functions of storage, support, protection, and vegetative propagation.
- Leaf: They are called 'food factories' of a plant. They carry out photosynthesis, a process by which they synthesize their food.
- Flower: In plants, the flower is the functional unit concerned with the sexual reproduction of plants.
- Fruits: They have different shapes and contain one or more seeds.

## Exercise | Q 6.2 | Page 25

Write an answer to the following. What are the functions of the root?

## SOLUTION

#### The functions of the roots are as follows:

- they help in anchoring the plant to the soil.
- they also help in the absorption of water and nutrients from the soil.

#### Exercise | Q 6.3 | Page 25

Write an answer to the following. Why is it necessary to classify living things?

#### SOLUTION

#### Importance of classification:

- (i) Classification ensures uniformity. All life forms can be studied on a common platform.
- (ii) Classification ensures the study of the interrelationship between various groups.

(iii) It helps us to study many organisms at the same time.

#### Exercise | Q 6.4 | Page 25

Write an answer to the following. What are the criteria used to classify living things?

#### SOLUTION

Organisms can be classified on the basis of similarities and differences in their structure, their organs, and other characteristics.

## Exercise | Q 6.5 | Page 25

Write an answer to the following. Tell some characteristics of creepers.





## SOLUTION

Plants that cannot stand upright, and spread on the ground are called creepers. They show characteristics like:

- their stem is very flexible, soft and green
- it grows rapidly with the help of a support

## Exercise | Q 6.6 | Page 25

Write an answer to the following. Explain the characteristics of herbs with two examples.

#### SOLUTION

#### Herbs have the following characteristics:

- they grow up to the size 1-1.5 metres
- they have green and flexible stems
- they can live up to a few months or up to two years
- examples of herbs include tulsi, parsley, mint, etc.

## Exercise | Q 6.7 | Page 25

Write an answer to the following. On the basis of which criteria will you classify plants and animals?

## SOLUTION

#### Plants and animals are classified on the basis of different characteristics:

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#### Plants are classified on the basis of

- height
- shape of stems
- period of the life cycle
- habitat

#### Animals are classified on the basis of:

- cell structure
- vertebral coloumn
- method of reproduction
- habitat

## Exercise | Q 6.8 | Page 25

Write an answer to the following. What protects the bodies of animals?

## SOLUTION

There are different mechanisms by which animals protect themselves from danger such as their predators:

- Some organisms are covered by hard shells to protect themselves. For example, garden snail, tortoise, etc. have a hard shell which they use to hide under dangerous conditions.
- Starfish and porcupines have spines on their surface which they can use against their enemies.
- Organisms like chameleon and frogs can change their colours according to the surrounding environment. It is known as chamouflaging.
- Animals that are found in very cold regions have a thick layer of fat under the skin and thick fur to protect them from extreme cold conditions.

## Exercise | Q 7 | Page 25

Draw the figure of a plant to show the parts, namely, the root, stem, and leaves in it.



## SOLUTION



