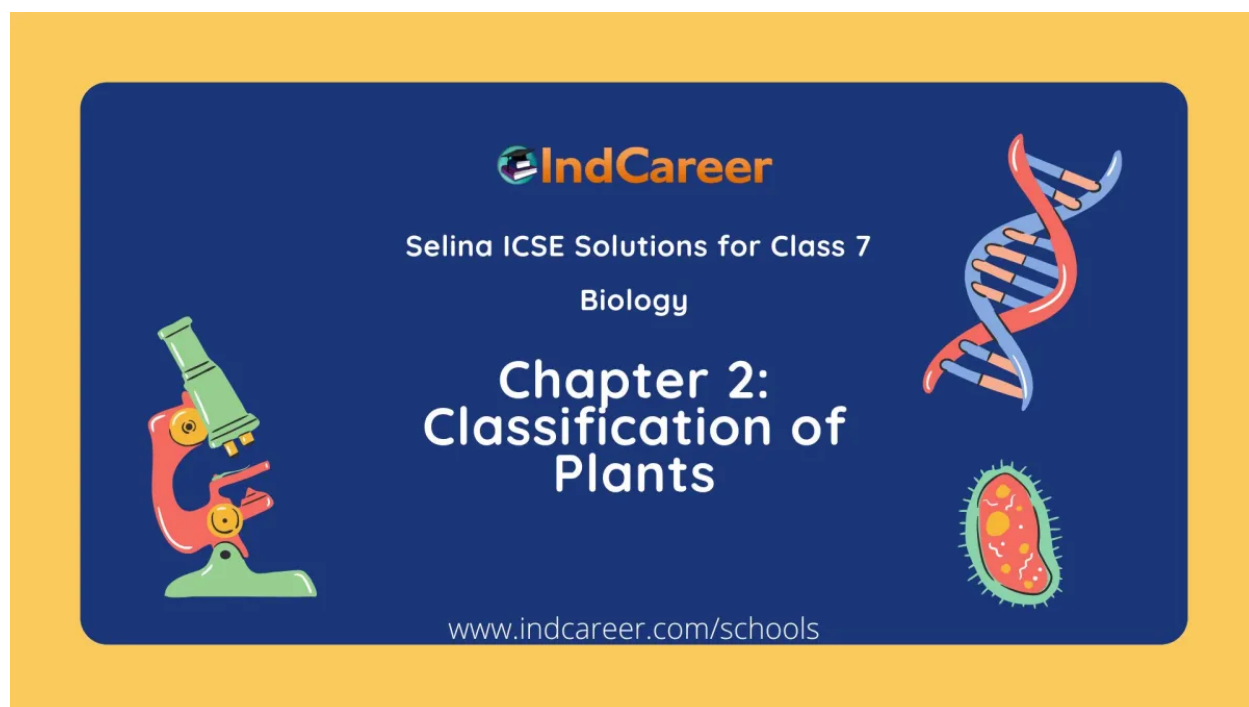


Selina Class 7 ICSE Solutions Biology (Unit 1) - Tissue: Chapter 2- Classification of Plants



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Selina Class 7 ICSE Solutions Biology (Unit 1)

- Tissue: Chapter 2- Classification of Plants

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Selina Class 7 ICSE Solutions Biology (Unit 1) - Tissue: Chapter 2- Classification of Plants

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Activity 1

Visit a garden park with your teacher or parents and take along with you, a notebook and a pencil. In the park, you would see a large variety of plants some very small, some with average height and some very tall. These plants differ in their features like shape, size (small/medium/tall) and life span. Observe these features carefully (you may even take help from the Gardner) and note down in the table given below.

Classify these plants in their respective appearance and categories:

Answer:

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S.N.	Name of the Plant	Height	Size	Stem	Herb/shrub/tree
1.	Mint	Very small	Small	Green and soft	Herb
2.	Jasmine	Medium	Average	Small and Woody	Shrub
3.	Rose	Medium	Average	Small and woody	Shrub
4.	Rice	Small	Small	Soft and green	Herb
5.	Papaya	Tall	Big	Long and woody	Tree
6.	Neem	Tall	Very big	Thick and woody	Tree
7.	Mango	Very tall	Very big	Thick and woody	Tree

Activity 2

Visit a nearby garden or park. Observe the different types of plants small and large, growing there. If permitted by the care-taker collect samples of as many types of plants as you can by plucking. Be sure that you do not damage the plant and collect only one specimen of each type. Take them to your school and record them according to their categories in your notebook

Answer:

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Category of the plants	Part collected	Examples
1. Flowering plants :	Flower	rose, dahlia
2. Non-Flowering plants :	leaves	ferns
3. Herbs :	soft stems	grass, mint
4. Shrubs :	woody stem	china rose, jasmine
5. Trees :	leaves	neem, palm

Activity 3

You will see two parts in gram seed. Each part of the seed is called cotyledon. In maize seed, you will see only one cotyledon. Can you tell which seed among them is monocotyledon and which is dicotyledon ?

Monocot : Dicot

Answer:

Monocot: maize seed Dicot: gram seed

Review Questions

1. Tick (✓) the appropriate answer :

(i) The two main categories of plants recognised on the basis of whether they produce fruits or not:

a) Biennials and annuals

b) Angiosperms and gymnosperms

c) Herbs and shrubs

d) Bryophyta and pteridophyta

(ii) Unicellular organisms with a proper nucleus are known as :

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(a) **Protista**

(b) Monera

(c) Fungi

(d) Algae

(iii) Amoeba belongs to :

(a) Monera

b) Protista

(c) Fungi

(d) Algae

Short Answer Questions

1. Name the categories of the following:

1. Plants which do not have roots, stems, and leaves: **Thallophyta**.
2. Plants with no roots, but have stems and leaves: **Bryophyta or Mosses**.
3. Plants with roots, stems, and leaves, and which bear spore- producing bodies:
Pteridophyta or Ferns.
4. The amphibians of the plant kingdom mosses (**Bryophytes**)

2. Give two characteristics and one example of each of the following:

(i) Algae:

Ans. Example: Spirogyra

(a) these are found in stagnant water of ponds, growing as green scum

(b) they have chlorophyll

(ii) Fungi:

Ans. Example: Mushroom

(a) They cannot prepare their food

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(b) Most fungi live on dead and decaying organic matter

(iii) Monocot:

Ans. Example: Maize

(a) They have seeds with one cotyledon

(b) Cotyledon usually becomes the embryonic first leaves of a seedling

(iv) Dicot

Ans. (a) They contain two cotyledons in their seed.

(b) They have network like (reticulate) venation in their leaves.

Examples : gram, rose, mango.

(v) Bryophyta

Ans. (a) They have stems and leaves but no roots.

(b) They are non-flowering plants.

Examples : mosses, liverworts.

(vi) Pteridophyta

Ans. (a) They are non-flowering plants i.e. do not produce flowers or seeds. They reproduce through spores

(b) They have feather like leaves divided into leaflets. Example : ferns

(vii) Thallophytes

Ans. (a) These plants do not have roots, stems or leaves.

(b) They are non-flowering plants.

Examples : Bacteria, fungi, algae

3. Differentiate between

(i) Algae and fungi

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Algae

1. Usually green having chlorophyll
2. Found in stagnant water of ponds.
3. Are usually Autotrophs e.g. Spirogyra

Fungi

1. Do not have chlorophyll
2. Found on dead and decaying organic matter.
3. Are usually saprophytes. e.g. Bread mould

(ii) Monocot and dicot plants.

Monocot

The plants which contain only one cotyledon in their seeds.

example: Grass, Maize

Dicot

The plants which contain two cotyledons in their seeds.

example: Brinjal, Mango

(iii) Autotrophs and heterotrophs

Autotrophs

1. They can make their own food using solar energy.
2. These include green plants having chlorophyll.
3. They are also called producers.

Heterotrophs

1. They cannot make their own food and depend on autotrophs or other heterotrophs for food.
2. These include animals and non-green plants.
3. They are called consumers.

(iv) bacteria and amoeba

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Bacteria

1. Bacteria are one of the smallest and structurally the simplest organisms.
2. Bacteria are unicellular cells
3. They are found every-where air, water, soil, the bodies of humans, plants and animals.
4. They are visible only under a high powered light microscope

Amoeba

1. Amoeba is one of the simplest animals.
2. It is made up of just one single cell.
3. Amoeba is found in ponds, ditches and other places with stagnating water.
4. They can be seen under the microscope only

(v) mosses and ferns

mosses

1. Mosses grow as green, velvety layers in moist places such as damp soil, on the bark of trees, and on damp walls.
2. These plants have stems and leaves, but no roots

ferns

1. Ferns are grown in most of the gardens for their beautiful leaves.
2. They bear well-formed leaves, stems and roots.

(vi) Angiosperms and gymnosperms

Angiosperms

1. These plants bear seeds inside a fruit.
2. Leaves are usually broad.
3. They usually shed their leaves every autumn.
4. Examples: rose, sunflower, sugarcane.

gymnosperms

1. These plants bear naked seeds called cones. Fruit is absent.
2. Leaves are usually needle like. They usually remain green throughout the year.
Examples: Pine, cedar, fir.

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Long Answer Questions

(Write the answers in your note book)

Question 1.

What name is given to bacteria found in the root nodules of pea plants ? State their importance.

Answer:

Rhizobium bacteria are found living in the root nodules (small swollen structures on roots) of leguminous plants like the pea, bean etc. These bacteria trap the nitrogen from the atmosphere and convert it into nitrates (mineral salts) which can be easily absorbed by the plants from the soil along with the water. It is observed here that the bacteria provide food to the host plant and the host plant in turn provides shelter for the bacteria. This kind of relationship wherein two organisms live in harmony each benefiting from such a relationship is called symbiosis. The organisms are called symbionts.

Question 2.

Briefly explain four types of bacteria on basis of their shape.

Answer:

There are four common forms of bacteria – coccus, bacillus, spirillum and vibrio.

1. **Coccus form:** These bacteria are spherical or ovoid in shape.
2. **Bacillus form (bacillus : rod)** These are rod-shaped. These may also occur singly or in group of two's or three's, joined end to end in long chains.
3. **Spirillum form:** These are spiral-shaped.
4. **Vibrio form:** These are short, curved, appearing comma- shaped. Chloera bacteria (Vibrio cholerae) are of vibrio type.

Question 3.

Give reasons for the following:

- (i) Bryophytes are called amphibians of plant kingdom.
- (ii) Amoeba does not have any regular shape.

Answer:

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1. Since bryophytes grow on land but need water for reproduction (like frogs in animals), they are called the amphibians of plant kingdom.
2. The body of Amoeba is irregular in shape. The outer covering of the body is the cell membrane. A prominent nucleus lies in the center surrounded by cytoplasm.

Question 4.

What is a contractile vacuule ? State its function in amoeba.

Answer:

Excess of water from the body of the amoeba is collected in the contractile vacuule. Ammonia is soluble in water. Hence, sometimes ammonia is expelled out along with the water from the contractile vacuule.

Function: The contractile vacuule expands when there is water in it and shrinks when the water is released into the surrounding.

Question 5.

List out Jive uses each of bacteria and fungi in our lives.

Answer:**The uses of Bacteria are :**

- Lactobacillus bacteria is used for curdling of milk (formation of curd from milk). It converts the milk sugar (lactose) into lactic acid, giving the sour taste to the curd.
- Certain bacteria like Acetobacter ferment fruit juices into vinegar (acetic acid).
- Tanning of leather: Certain bacteria are used in curing of animal hides and skin.
- Retting of fibres: Jute fibres are separated and made softer by the use of bacteria.
- Formation of compost and manure: Cow dung, horse dung and agricultural wastes are subjected to bacterial action which causes their decay and produce very useful manure.

The uses of Fungi are:

- Fungi are an important source of food. Some mushrooms such as Morechella and Agaricus are edible.
- Yeast, a unicellular fungus, is important in bakeries as it is used in the making of bread. It is also important in the breweries for making alcohol.
- Yeast also produces vitamin B.

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- Fungi, like bacteria, are also good decomposers. They decompose dead organic matter and return the nutrients back into the soil.
- Penicillin an important antibiotic is obtained from a fungus called *Penicillium notatum*.



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- Chapter 1- Plant And Animal Tissues
- Chapter 2- Classification of Plants
- Chapter 3- Classification of Animals

Unit 2

- Chapter 4- Photosynthesis and Respiration

Unit 3

- Chapter 5- Excretion in Humans
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