

TCE *Techniques of Communication and Expression*

University of Jijel

Level: 1st Year Biology

Chapter III. Text analysis and comprehension

Topic 2. Plant structure and its functions

Plants are multicellular living organisms that belong to the plant kingdom. They are autotrophic, which means they can produce their own food through a process called photosynthesis. Plants are essential for life on Earth because they produce oxygen, serve as a food source, and play a key role in maintaining ecological balance. The structure of a plant is organized into two main systems: the root system and the shoot system.

The root system is usually located underground. Its main functions are to absorb water and mineral salts from the soil, anchor the plant firmly in place, and sometimes store nutrients. Roots have tiny hair-like structures called root hairs that increase the surface area for absorption. In some plants, roots are modified to store food, such as in carrots or beets.

The shoot system includes the stem, leaves, flowers, and sometimes fruits.

The stem is the main support structure of the plant. It holds the leaves and flowers in a position where they can receive sunlight. Inside the stem, there are specialized tissues called xylem and phloem. The xylem transports water and minerals from the roots to the leaves, while the phloem distributes the food produced in the leaves to the rest of the plant. The stem also helps in storing nutrients in some plants.

The leaves are the primary sites of photosynthesis. They are usually broad and flat to capture maximum sunlight. Leaves contain chlorophyll, the green pigment that absorbs light energy. During photosynthesis, plants use carbon dioxide from the air, water from the soil, and sunlight to produce glucose (food) and oxygen. Leaves also play a role in gas exchange through small openings called stomata, and they help regulate water loss through transpiration.

The flowers are the reproductive organs of flowering plants. They contain male and female structures necessary for reproduction. Through a process called pollination, pollen is transferred from the male part (stamen) to the female part (pistil). After fertilization, the flower develops into a fruit that contains seeds.

The fruits protect the seeds and help in their dispersal by wind, water, or animals. The seeds contain an embryo that can grow into a new plant under suitable conditions.

In conclusion, plants have a complex and well-organized structure. Each part has a specific function, and all parts work together to ensure the survival, growth, and reproduction of the plant. Their importance in sustaining life on Earth makes them essential organisms in all ecosystems.

Questions, critical analysis, and writing skills

1. What are the two main systems of a plant?
2. What are the main parts of a plant?

3. What are xylem and phloem?
4. What are stomata and what do they do?
5. Define photosynthesis, transpiration, pollination, and fertilization?
6. What would happen if a plant had no roots?
7. How do the different parts of a plant work together?
8. Each sentence contains a mistake. Identify and correct it.

Plants are heterotrophic organisms.

The shoot system is located underground.

Xylem transports food in the plant.

Leaves do not contain chlorophyll.

Roots are responsible for pollination.

Flowers help in water absorption.

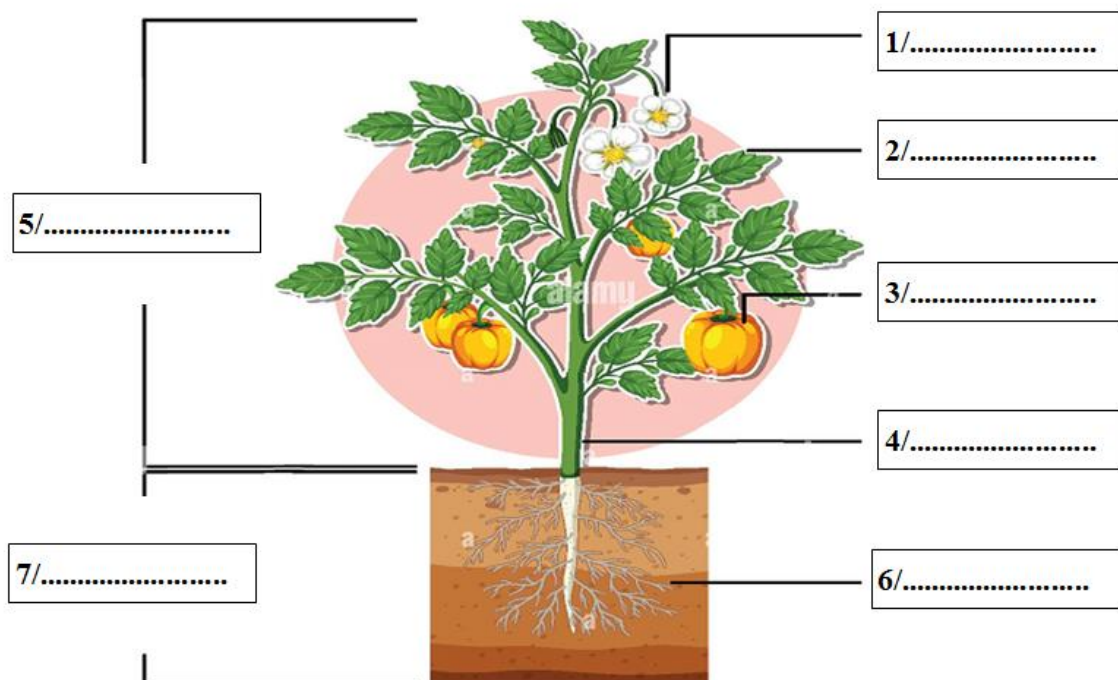
Fruits produce oxygen.

Stomata are found in roots.

9. Complete the table:

Plant part	Function
Roots	
Stem	
Leaves	
Flowers	
Fruits	

10. According to the figure, name each part of the plant.



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