

What are Plant Tissue Systems?

Worksheet

Plant tissue systems are the three continuous tissue types - dermal (protective outer layer), ground (photosynthesis, storage, support), and vascular (xylem and phloem transport) - that make up every organ of a plant.

Questions

1. Which tissue system covers and protects the plant body?
 - A) Dermal tissue
 - B) Ground tissue
 - C) Vascular tissue
 - D) Meristematic tissue
2. Which vascular tissue transports sugars made in photosynthesis?
 - A) Xylem
 - B) Phloem
 - C) Cambium
 - D) Cortex
3. Sclerenchyma cells are known for...
 - A) Photosynthesis only
 - B) Thick lignified walls that provide rigid support
 - C) Transporting water
 - D) Producing pollen
4. Which statement about ground tissue is FALSE?
 - A) It includes parenchyma, collenchyma, and sclerenchyma
 - B) It only exists in roots
 - C) It can carry out photosynthesis (chlorenchyma)
 - D) It provides storage and support
5. A leaf's outer waxy layer that prevents water loss belongs to which tissue system?
6. Water moves from the roots to the leaves through which tissue?
7. The soft tissue that fills the space between the epidermis and vascular bundles in a stem, used for photosynthesis and storage, is called?
8. Define: What are the three plant tissue systems?
9. Define: What does dermal tissue do?
10. Define: What are the two vascular tissues?

Answer Key

1. A) Dermal tissue - Dermal tissue (epidermis) forms the outer protective layer.
2. B) Phloem - Phloem carries sugars (sap) from source to sink.
3. B) Thick lignified walls that provide rigid support - Sclerenchyma has thick, lignified walls for structural strength, often in dead cells at maturity.
4. B) It only exists in roots - Ground tissue is found throughout the plant body - roots, stems, and leaves - not just roots.
5. Identify function: protection and waterproofing This is the epidermis, part of the dermal tissue system Answer: Dermal tissue
6. Water transport is directional: roots leaves Xylem is the vascular tissue responsible for water transport Answer: Xylem (vascular tissue system)
7. Locate tissue between dermal and vascular layers This packing tissue is ground tissue Most common cell type: parenchyma Answer: Ground tissue (parenchyma)
8. Dermal, ground, and vascular tissue systems.
9. Forms the protective outer covering (epidermis) of the plant, often with a waterproof cuticle.
10. Xylem (water and mineral transport) and phloem (sugar transport).

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