Chapter 23

23-1 Specialized Tissue in Plants

Epidermal Cell- A cell that makes up the dermal tissue, which is the out covering of a plant.

- Vessel Element- In angiosperms, xylem cell that forms part of a continuous tube through which water can move.
- Sieve Tube Element- The main phloem cells.

Companion Cell- Phloem cells taht surround sieve tube elements.

Parenchyma- Cells that have thin cell walls and large central vacuoles surrounded by a thin layer of cvtoplasm.

Collenchyma- Cells that have strong, flexible cell walls that help support larger plants.

- Sclerenchyma- Cells that have extremely thick, rigid cell walls that make ground tissue tough and strong.
- Meristem- Clusters of tissue that are responsible for continuing growth through out a plant's life time. Meristematic Tissue- Undifferentiated tissue; not being specialized for certain tasks.
- Apical Meristem- A group of undifferentiated cells that divide to produce increased length of stems and roots.

Differentiation- The process by which cells develope into mature cells that gain specialitation. e.cő 23-2 Roots

Taproot- The primary root that grows long and thick.

Fibrous Root- Roots that branch out so that soil would ne control away during a flood or rain.

Root Hair- Tiny cellular projections on a root that separates soil particles to absorb water better.

Cortex- A spongy layer of ground tissue it sile the epidermis.

Endodermous- A layer of cells after the cortex.

Vascular Cylinder-AW sociar subsystem, while the endodermous completely encloses. Root Cap 2 n end of a root that projects that no root forces its way into the soil.

Casparian Strip- A water proof strip in the vascular cylinder that surrounds four sides of each cell. 23-3 Stems

Node- Where leaves are attached to a plant

Internode- Regions between the nodes

Bud- They contain undeveloped tissue that can produce new stems and leaves.

Vascular Bundle- A bundle that contains xylem and phloem tissue.

Pith- The parenchyma cells inside the ring of vascular tissue.

Primary Growth- The method of growth, occuring only at the ends of a plant.

Secondary Growth- The method of growth in which stems increase in width.

Vascular Cambium- Lateral meristematic tissue that produces vascular tissues and increases the thickness of stems over time.

Cork Cambium- Produces the outer covering of stems.

Heartwood- It contains old, nonfunctioning xylem that helps support the tree.

Sapwood- It contains active xylem that transports water and minerals.

Bark- It includes Cork, Cork Cambium, and Phloem