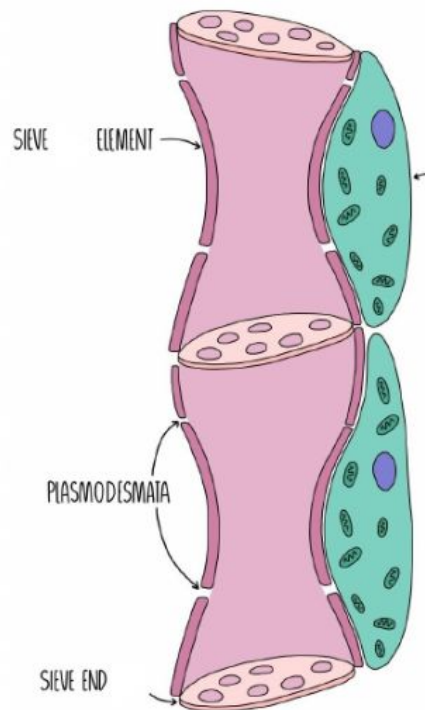
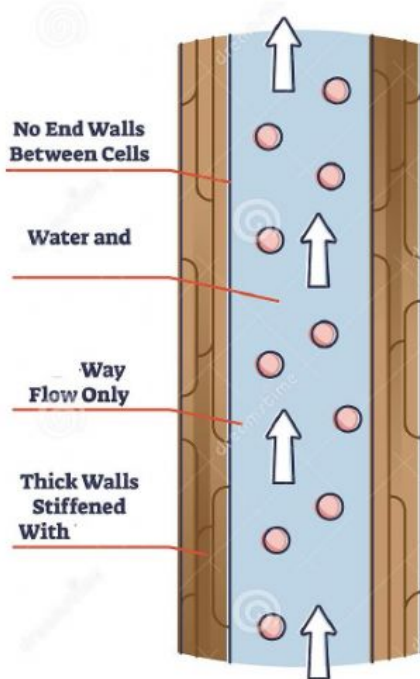
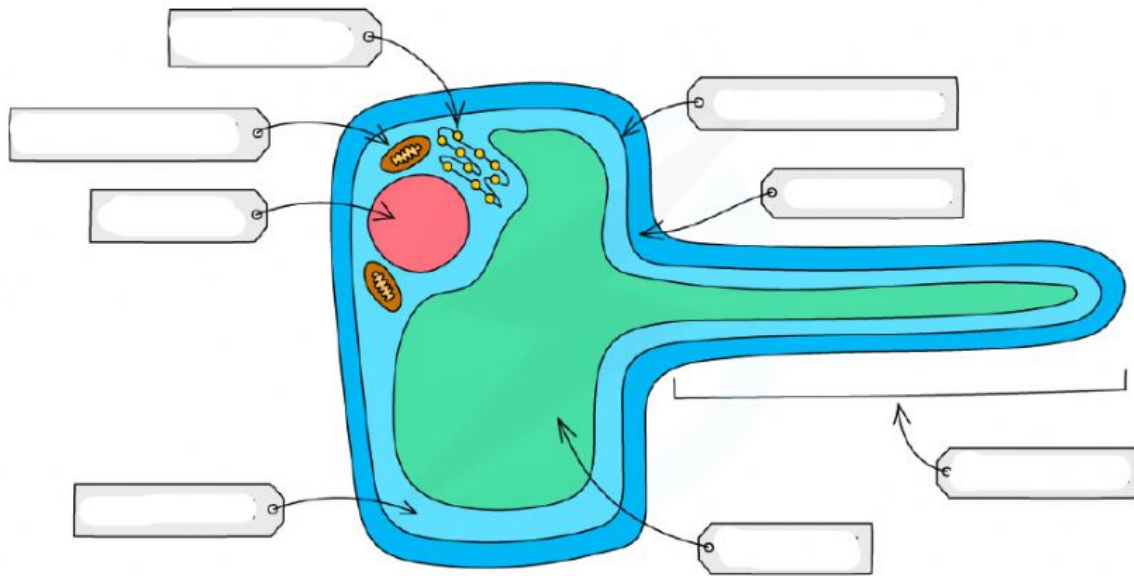


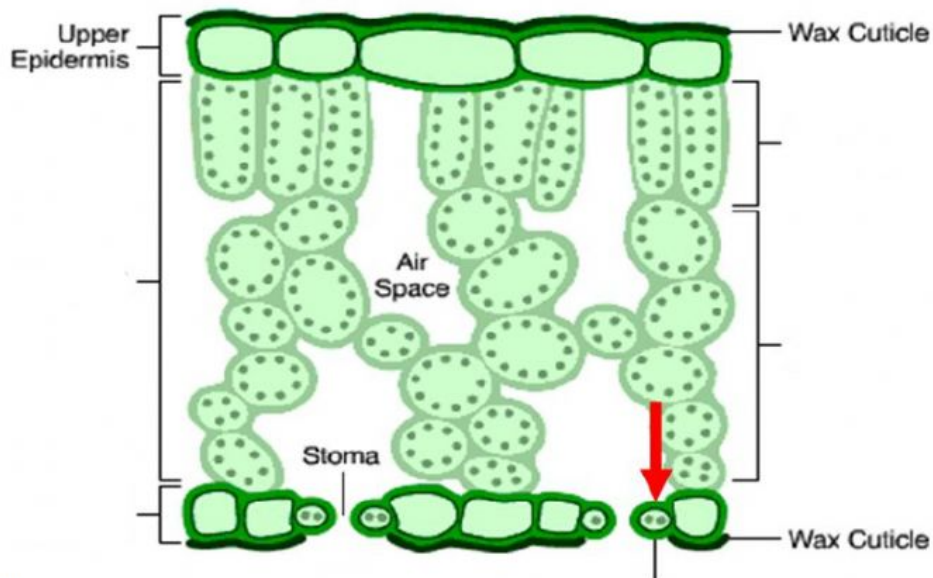
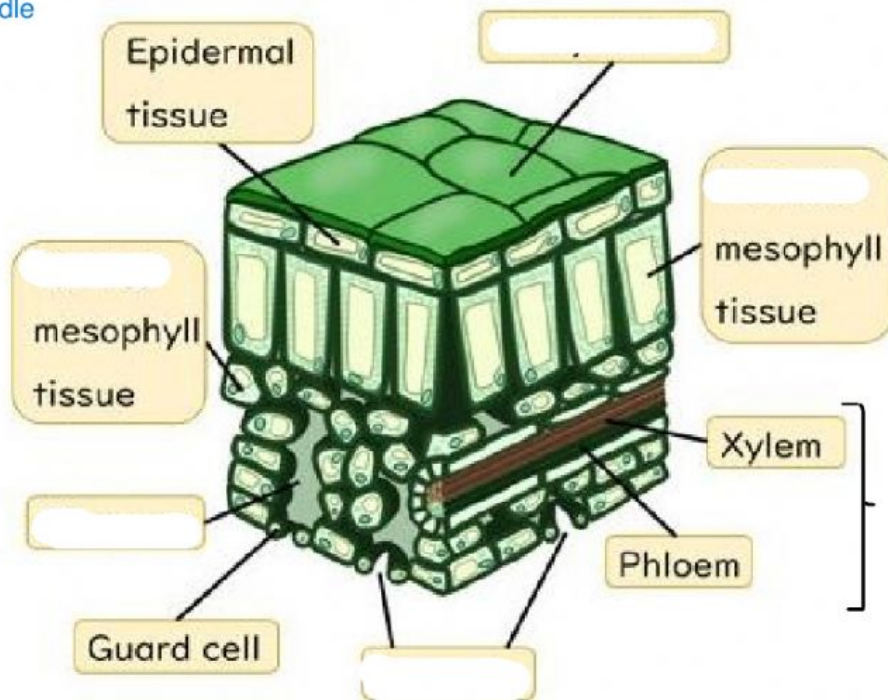
Ribosomes
Nucleus
Vacuole
Mitochondria

Cytoplasm
Root hair
Cell wall
Cell membrane



Tube
Lignin
Minerals
Companion cell
Plate
One

Stomata
Waxy cuticle
Air space
Vascular bundle
Palisade
Spongy



Guard cell
Palisade Mesophyll
Lower Epidermis
Mesophyll
Spongy Mesophyll

True/ False Questions

The xylem transports water and amino acids

Root hair cells are single-celled

Chloroplasts exist in all types of plant cells, including root hair cells

The xylem is composed of dead cells

The phloem has lignin

Companion cells open and close the stomata

The xylem is a continuous hollow tube

Cells in the have no cytoplasm or organelles

Root hair cells are extensions of the mesophyll

Mineral ions enter the root hair cells by active transport

ATP is the energy produced by mitochondria

Root hair cells have large vacuoles to facilitate rapid osmosis

Xylem and phloem in groups are called vascular bundles

The phloem transports sugars in only one direction

Sieve plates in the phloem prevent the flow of sugars and amino acids

The mesophyll consists of three layers

Leaves are necessary for photosynthesis and respiration

Stomata are the pores in leaves and guard cells are what open and close them

The upper epidermis contains most of the stomata

Photosynthesis mostly occurs in the palisade mesophyll