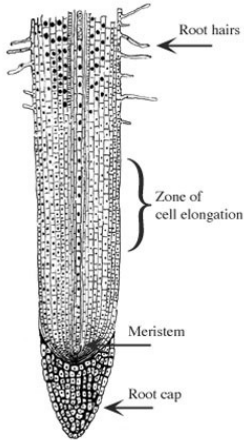


SBI3U

ROOT STRUCTURE

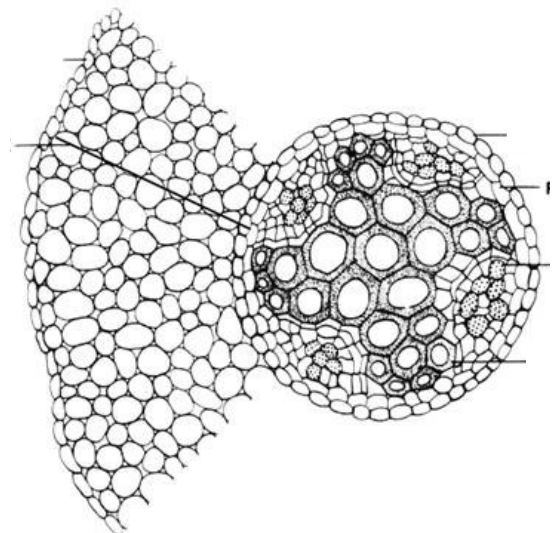
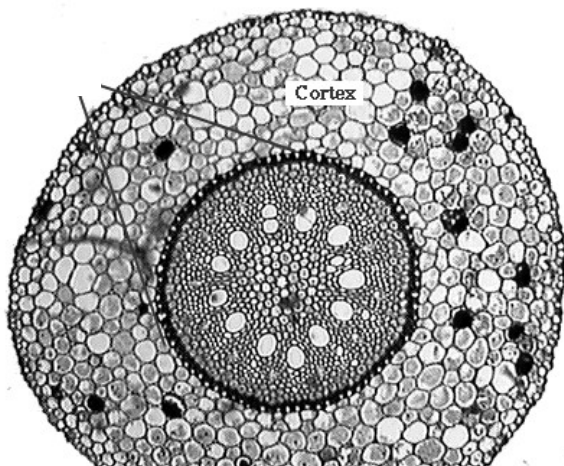
The first structure to appear when seed _____ and is called the _____ in the embryo. The function of the root system is to absorb _____ and nutrients from the soil for the growing plant, as well as providing a stable anchor. Water is absorbed by a process called _____ (More next year). The walls of root cells are very _____ and have a large _____. The depth of the root depends on the _____ content of the soil.



Each root has a meristemic area near its tip to allow for growth.

At the tip of each root is a cluster of cells forming the root cap; these cells produce a mucus-like substance which lubricates the movement of the root through the soil.

Monocot	Dicot



Epidermis

- provides protection and regulates water movement
- epidermal cells can elongate and form root hairs **which increase the surface area** for water absorption

Cortex

- the innermost layer of cortex cells is called the endodermis
- the endodermal cells are coated with a waxy layer called the *casparian strip* (this prevents water from moving in the spaces between the endodermal cells)