

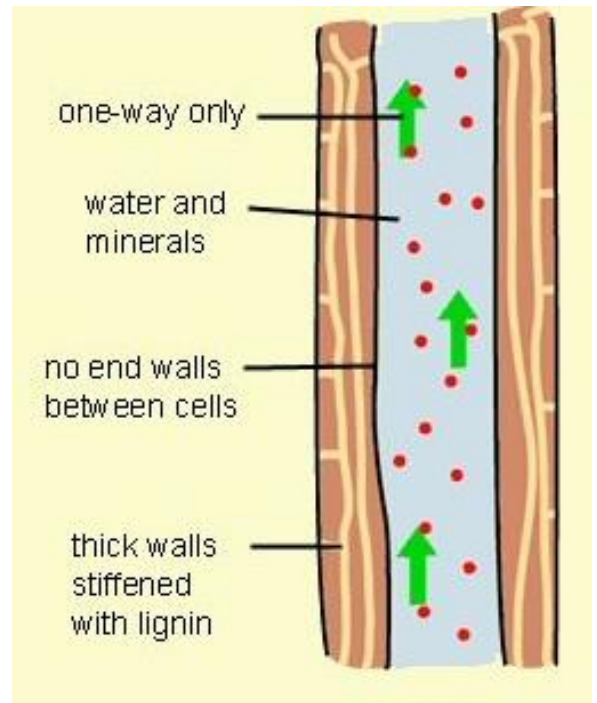
Xylem & Transpiration

Xylem vessels

Xylem vessels carry _____ and dissolved mineral _____ from the roots up to the leaves.

Adaptations of xylem vessels:

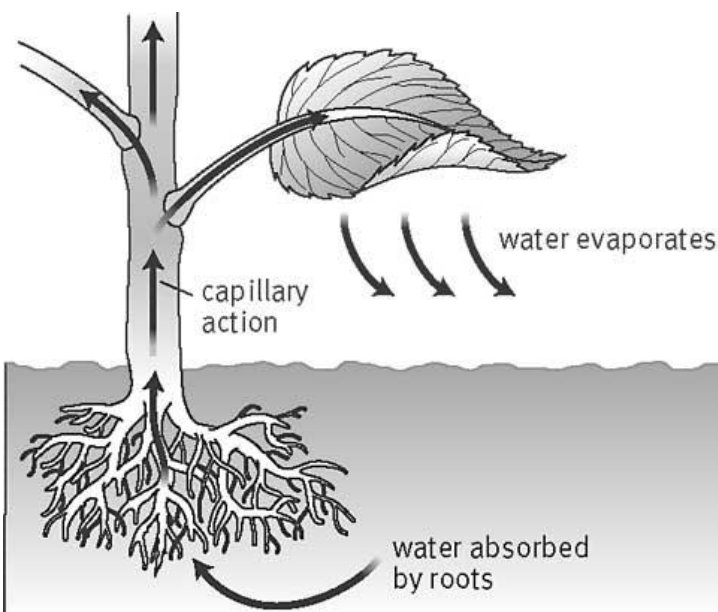
- Dead cell with no _____ or organelles - less resistance to the flow of water
- No _____ between cells to provide a hollow, continuous tube
- Walls are coated with a waterproof substance called _____ to keep water moving in a one-way direction (up)
- Lignin also _____ the stem



Transpiration

Number these statements to show the correct order of events in transpiration:

	Water moves up the stem in the xylem vessels
	This acts to pull water up against the force of gravity
	Water moves into a plant through the root hairs by osmosis
	As water evaporates from the stomata, water from the xylem vessels travels across the leaf by osmosis to replace it
	Since water is constantly moving out of the xylem vessels, a lower pressure is created at the top of the stem



Why do plant tissues need water?

- 1)
- 2)

How are root hair cells adapted to take up mineral ions and water from the soil?