

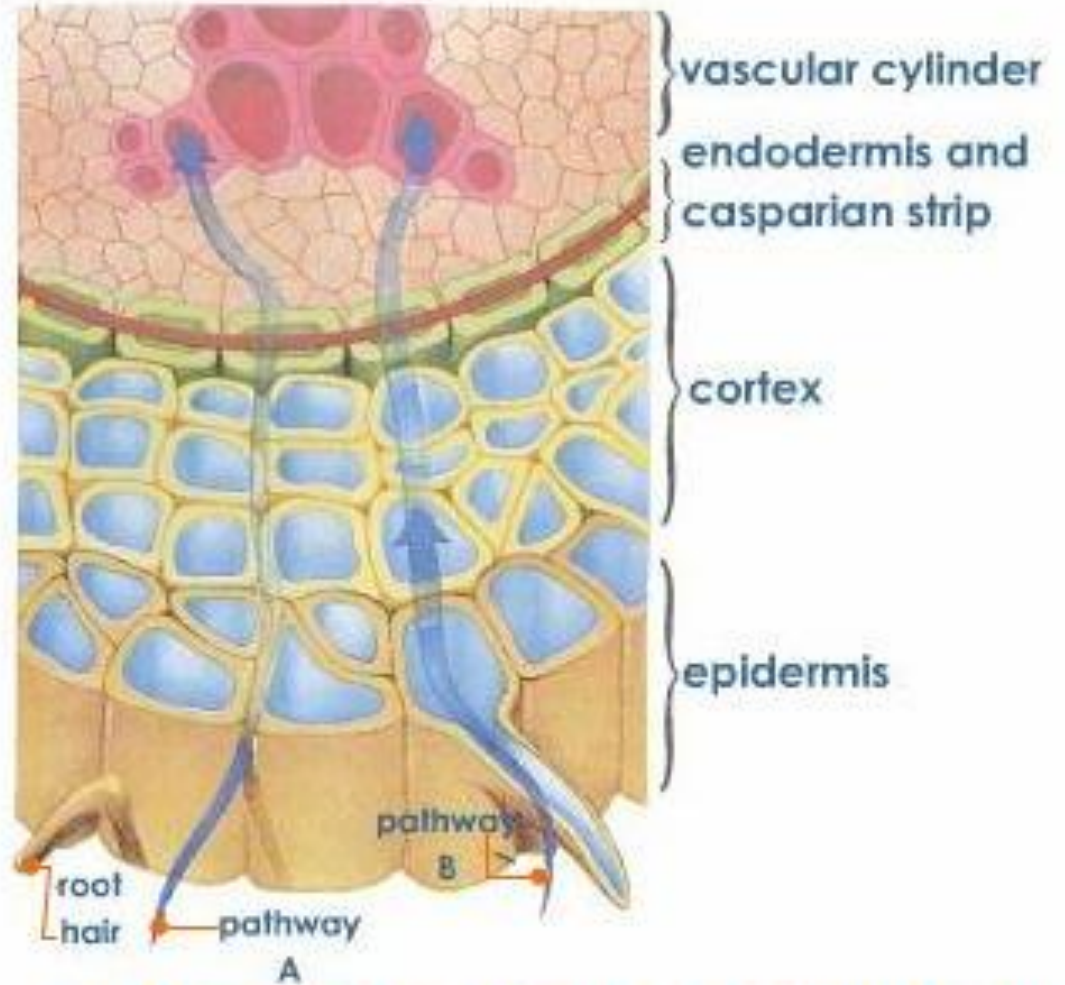
# Water and Food Transport



# Water Transport

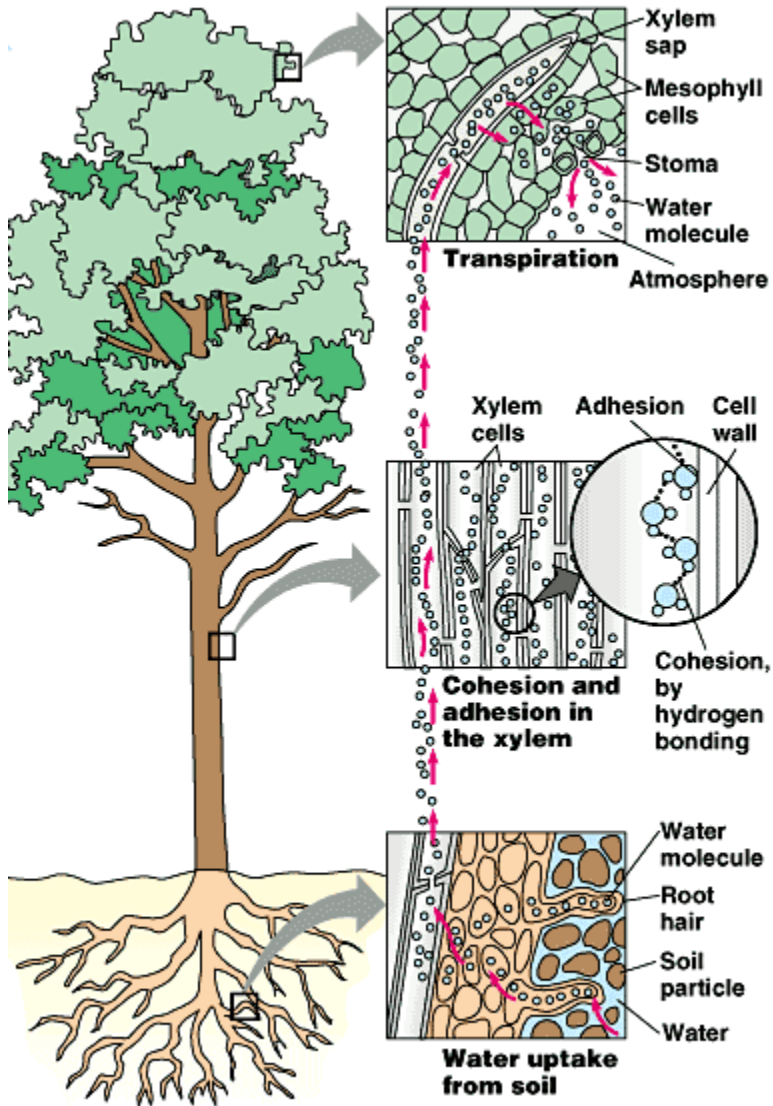
- Root hairs absorb minerals via active transport.
  - Glucose stored in roots produces energy via CR.
- Minerals pumped from epidermis → cortex → endodermis → xylem.
- Sets up hypertonic condition → water rushes in via osmosis.
- Root pressure pushes minerals up the xylem.

# Water Transport



The Pathway of Water from the Soil into the Xylem

# Water Transport



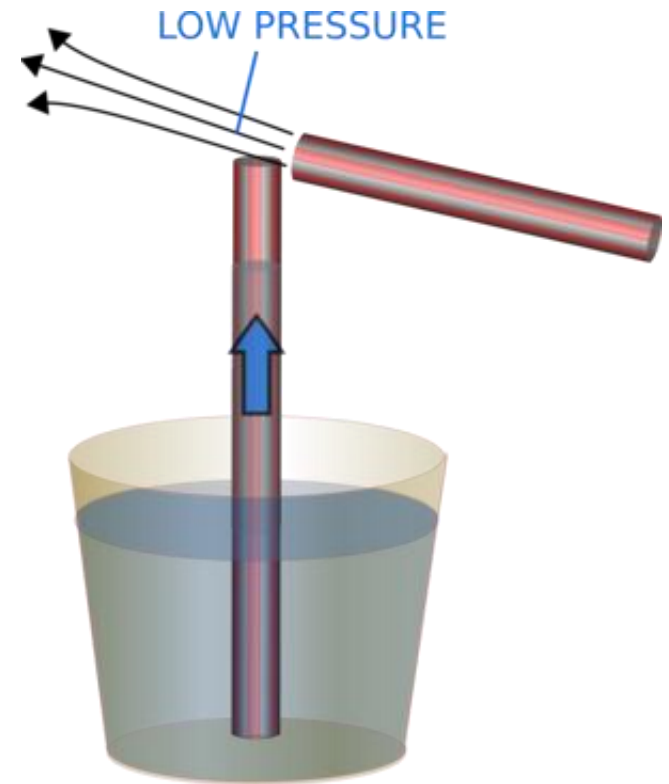
## Leaf Pull (Transpiration Pull)

Evaporation of water  
“pulls” on adjacent  
water molecules.

# Water Transport

## Bernoulli's Principle

- Breeze blows by leaves creates low pressure.
  - Water & minerals in roots in area of high pressure.
- \* Movement from high pressure toward low pressure.



# Food Transport

## Pressure-Flow Theory

- Sugar actively transported from leaves into phloem.
- Sets up hypertonic condition → water rushes in via osmosis.
- Creates area of high pressure with respect to roots.
- Phloem sap pushed down and stored in roots.



# Food Transport

