

Xx

Xylem:

- The vascular tissue, in plants, that conducts water and dissolves nutrients from roots.
- They also help form the woody element in the stem. It also provides physical support.
- Xylem tissue consists of a variety of specialized, water conducting cells.
- Is a tissue consisting of dead hallowed out cells that forms a system of pipes.
- Xylem walls have to be super thick - it is wood!
Why? Because they transport so much water.
- Some water used in photosynthesis & minerals being absorbed. Excess water evaporates.
- The water also helps the plant to cool down - they need to cool down too!
- **Transpiration** - causes a suction force and evaporative cooling.
- At night there is no transpiration. Root pressure is the only force that keeps water in and the columns up.
- **Guard cells** optimize leaf gas exchange in response to CO₂ concentration, light intensity, humidity and drought
 - carry out transpiration
 - absorbs water directly through rain and other sources
 - controls the rate of transpiration
 - helps in the breathing (absorbing of H₂O & oxygen for the formation of glucose & getting rid of CO₂) in plants and trees

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