

Name _____

The Thirsty Journey: How Plants Take in Water for Photosynthesis

Short Answer Key

1. Root hairs increase the surface area of plant roots, allowing for greater contact with soil particles and enhanced water absorption.
2. Osmosis is the movement of water from an area of high water concentration (in the soil) to an area of low water concentration (inside root cells). It plays a role in water uptake by plant roots by facilitating the movement of water into the root cells.
3. Transpiration is the loss of water vapor from plant leaves through stomata. It creates a negative pressure or "pull" that helps draw water from the roots to the leaves.
4. Xylem tissues in plants transport water from the roots to the leaves. They provide a conduit for water movement and support the plant's structure.
5. An example of a plant adaptation to different environmental conditions related to water absorption is the development of shallow but extensive root systems in desert plants to quickly capture water after rainfall.

