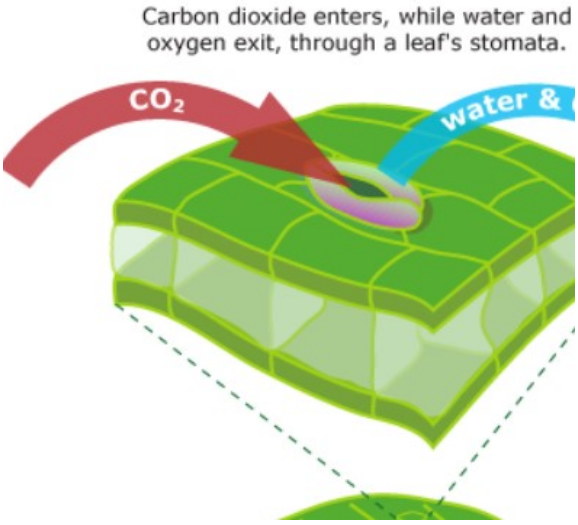
HOW TREES USE WATER TREE WORD VOCABULARY

STOMATA: (sto-mah-tah) The opening, usually found on the underside of leaves where the exchange of gases occurs. The Carbon Dioxide in the air moves into the plant and the Oxygen from the plant moves out. The plant uses the Carbon Dioxide to help make its food and the plant uses some of the oxygen to help move water outside of the plant.



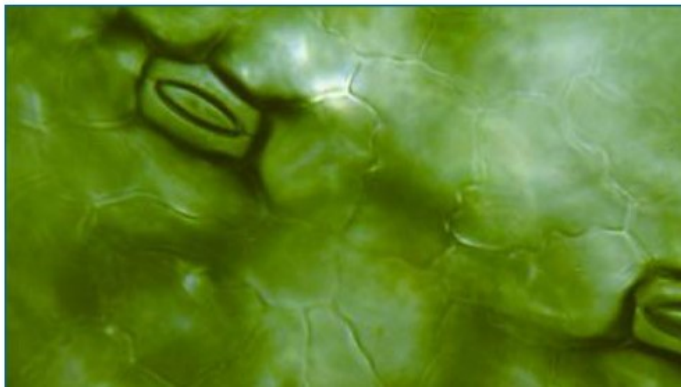


Photo credit: https://evolution.berkeley.edu

TRANSPIRATION: (trans-per-a-shun) This is the evaporation (drying up) of water in the leaf to the outside air. This helps to cool down the temperature of the air and the surrounding areas under the trees. This movement of water pulls nutrients and water up from the roots to the leaves. It also acts like an air conditioner.

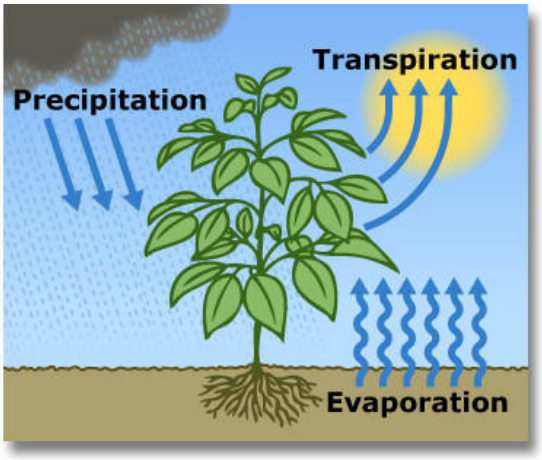


Photo credit: https://www.usgs.gov

EVAPORATION: (i-va-pe-ra-shen) When liquid water changes into a gas and "disappears" into the air. It dries up! This can be drying up from the ground surface as in the diagram above, or from the oceans, or from any source of water as in the pot of water below:

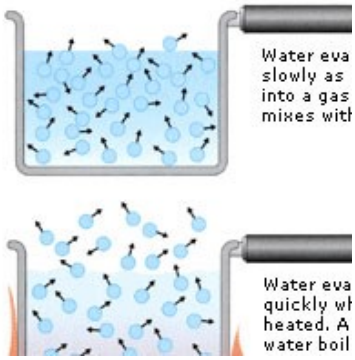


Photo credit: https://aquarius.umaine.edu

CAPILLARY ACTION: (kap-e-lere ak-shen) The movement of water and plant nutrients inside small tube-shaped cells up into the tree (or plant) to the leaves. Think of drinking water with a straw.

Photo credit: https://water.usgs.gov

PHOTOSYNTHESIS: (foe-toe-SIN-thuh-sis) The process of making food for the tree to grow by using the sunlight that hits the leaf surface, water, and gases from the air (carbon dioxide) into sugar, the food the plants use.

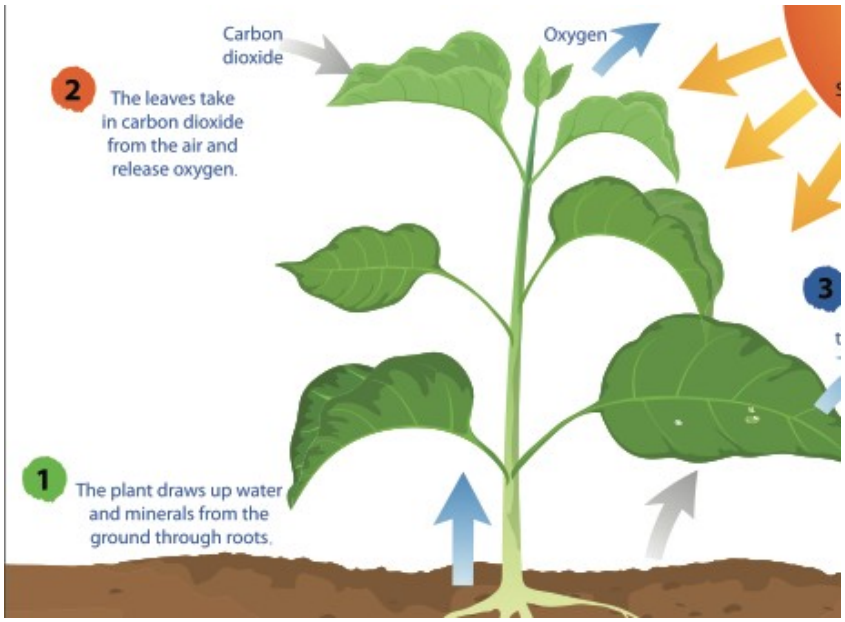


Photo credit: https://ssec.si.edu

BARK: (**A** on diagram) The hard, dead outer tissues of the plant that helps to protect the inner tissues.

PHLOEM: (flo-em) (**B** on diagram) Sometimes called the "inner bark" it is a thin layer that brings the food made in the leaves down to the trunk and the roots.

CAMBIUM: (kam-be-em) (**C** on diagram) The thin layer of live cells between the bark and phloem. It grows new cells on each side of itself, one side adds to the wood inside the tree, and the outer side adds cells to the phloem so it can continue to bring food down to the trunk roots.

SAPWOOD: (**D** on diagram) The outer core of wood in the tree that has tube-like cells that carry the water and nutrients (called sap) from the roots up to the leaves. Sapwood turns into heartwood as the tree gets older.

XYLEM: (zi-lem) (**D&E** on diagram) The combined parts of the tree that include the sapwood and the heartwood. The wood part of the tree.

HEARTWOOD: (**E** on diagram) The very inner core of the tree. These wood cells are no longer living but they provide much strength for the tree to stay upright even in strong winds.

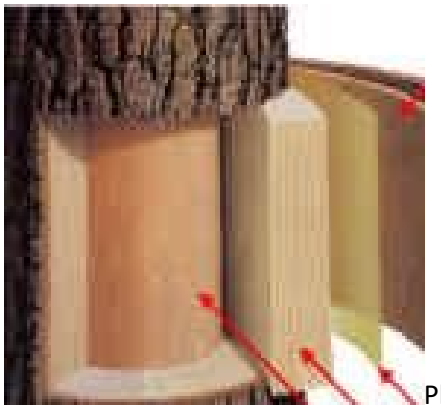


Photo credit: https://www.arborday.org

TREE RINGS

ACTIVITY SHEET