

Parts of a Tree

A

tree is a woody perennial plant that usually is more than 10 feet tall and has one main stem. Although trees come in different shapes and sizes, most have the same basic parts. Each of these parts — from the highest leaves in the crown to the tiny root hairs buried in the soil — plays an important role in the tree's function and survival.

Crown

The crown, which consists of the leaves and branches at the top of a tree, filters dust and other particles from the air, reduces the impact of raindrops on the soil below and helps cool the air by providing shade. The leaves, which are the food factories of a tree, use the sun's energy to convert carbon dioxide and water into sugar and oxygen in a process called photosynthesis.

Trunk

The trunk, or stem, of a tree supports the crown and gives the tree its shape and strength. It consists of four layers of tissue that contain a network of tubes to transport water and minerals from the roots to the leaves, and sugar from the leaves to the rest of the tree.

Roots

A tree's roots absorb water and nutrients from the soil, store sugar and anchor the tree upright into the ground. All trees have lateral roots that usually extend horizontally beyond the branch tips. Some trees have a tap root that reaches down as far as 15 feet.

Bark

Bark, which covers the trunk and branches of a tree, protects it from insects, diseases, weather and sometimes fire.

Phloem

The phloem, or inner bark, acts as a food supply line by carrying sap — sugar and nutrients dissolved in water — from the leaves to the rest of the tree.

Cambium

The cambium is a very thin layer of growing tissue that produces new phloem, cambium and xylem cells, and makes the trunk, branches and roots grow larger in diameter.

Xylem

The xylem, or sapwood, comprises the youngest layers of wood. Its network of thick-walled cells brings water and nutrients up from the roots to the leaves and other parts of the tree.

Heartwood

The heartwood is dead tissue in the center of a tree that provides support for the tree. Because it contains stored sugar, dyes and oils, heartwood is usually darker than the other woody parts of a tree.