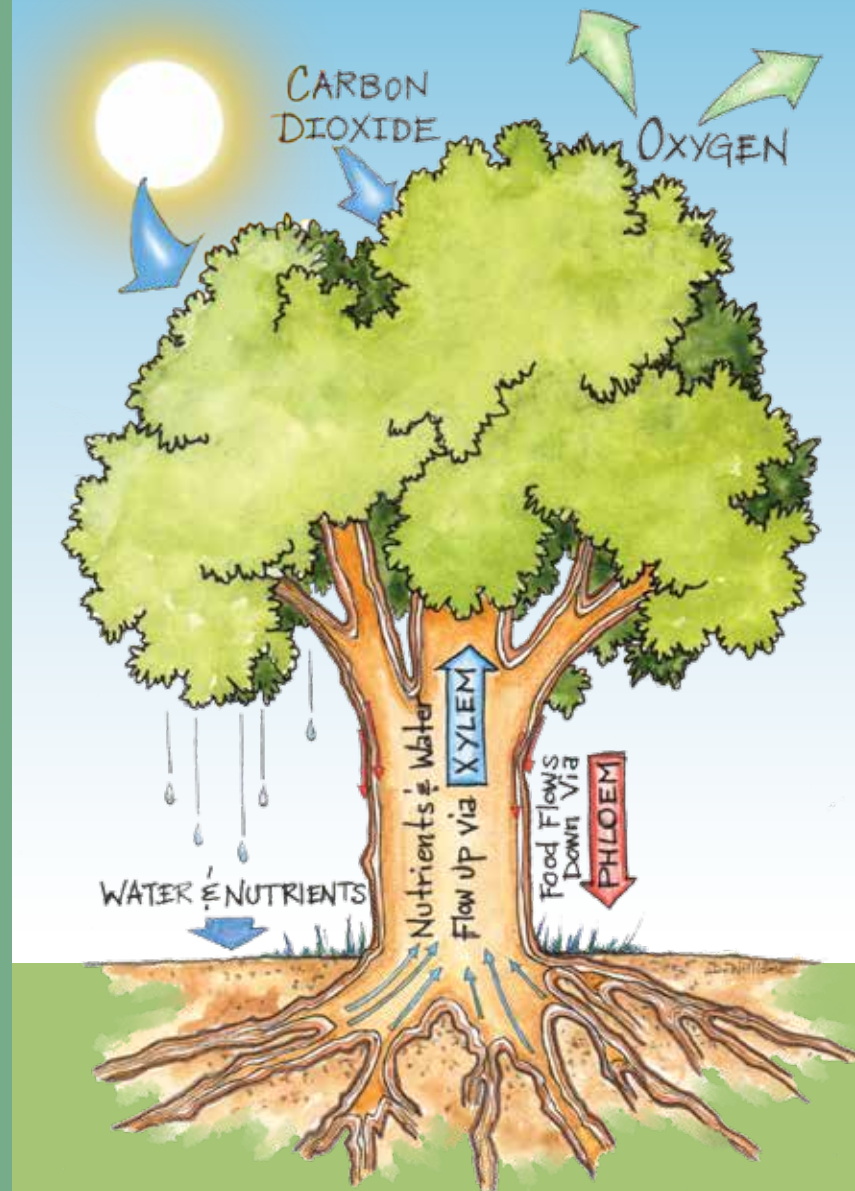


The Need to Know: How Trees Grow



Plants and trees have the ability to make their own food in a process known as **photosynthesis**. They do this by sucking water and nutrients from the soil up through their xylem and into their leaves. The water and nutrients are combined with carbon dioxide and sunlight to make a sugary food called **glucose**. This food then travels down through the phloem to the rest of the tree, so it can grow.

Illustrations by David Williams, Wingin' it Works

● Bigleaf Maple (Acer macrophyllum)



The bigleaf maple leaves can grow between 6 to 12 inches wide and have five deep lobes with wavy, toothed edges. This tree is able to grow over 100 feet tall, and its crown has large, spreading limbs. The bark is gray with shallow grooves when it is older, and the bigleaf maple produces clusters of yellow-green flowers in the spring which later become samaras, or pouches, to carry its seeds. Bigleaf maple wood is used for making furniture and instruments.

● Black Cottonwood (Populus trichocarpa)



Cottonwoods are best known for their fuzzy fruits, which drift from the trees in the spring and early summer to give the appearance of a light snowfall. This tree also has dark-colored bark, hence its name "black cottonwood." During the spring and summer, the light green leaves of these tall trees can indicate sources of water in drier places. Resin from the black cottonwood is used in medicine and perfume.

● Sitka Willow (Salix sitchensis)



The Sitka willow is a multi-stemmed tree that can grow up to around 25 feet tall, with smooth, grey or brown bark. This willow can be readily recognized by its leaves, which are oblong and lance-shaped. But what makes the Sitka willow leaves unique are hairs on the undersides of the leaves that reflect light, giving them a silvery appearance. These trees are great for preventing erosion on stream banks.

● Oregon Ash (Fraxinus latifolia)



The wood from the Oregon ash is used for many things, including furniture, flooring, boxes, and fuel. It can be recognized by its deeply ridged bark that creates diagonal patterns. It also has oblong leaves that are pinnately compound, with 5 to 7 leaflets growing opposite of each other except at the end. The Oregon ash also produces canoe-shaped samaras, or pouches, to carry its seeds.

● Douglas Fir (Pseudotsuga menziesii)



Douglas firs have a straight trunk, a spire-like crown, and are capable of growing to over 300 feet tall. The bark is gray to reddish brown with deep grooves that help defend the tree from forest fires, and one inch needles cover the spreading branches of this fir. Along the northwest coast, the Douglas fir is used extensively to build houses. It is also commonly used as a Christmas tree.

● Red Alder (Alnus rubra)



This medium-sized tree likes to grow in nutrient-rich areas like floodplains and stream banks. Its narrow trunk tapers into the rounded crown, and its bark is whitish gray with a red inner bark. The red alder's leaves are oval, pointed, and have toothed edges. The leaves are also bright green on top with a greyish underside. The bark of the red alder has been used to make dyes, and the wood is good for smoking meat.

What Happened to that Tree?

Can you spot any of these human-made or nature-made tree conditions?



● **Beaver Prevention** is sometimes necessary to protect special trees in an ecosystem. While beavers are very beneficial to wetland environments — trees are one of the foods for their good health — they can't know which trees should be preserved. Fortunately, there are easy solutions to discouraging beavers from cutting down certain trees. Mesh wire and thick cloth can be wrapped around the base of trees to prevent beavers from chewing them.



● **Tree Splitting** can occur for any number of reasons, whether by high winds or by rapid thawing of the tree's tissue during cold weather. Trees can naturally heal these splits, but sometimes, especially with large trees, the tree might need a little help from people. Using bolts and cables, we can help give the tree some extra support as the split heals. Think of it as being similar to putting a cast on a broken bone.



● **Tent Caterpillars** appear in abundance during the spring. The larvae live as a colony in white silken nests, which they build upon various host trees during their early stages. They stay in these nests when not feeding. Tent caterpillars are considered a nuisance for how many leaves they eat off a tree, but they are generally left alone as they have a minor impact to trees.

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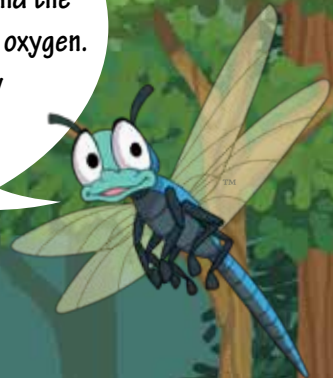


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The Need for Trees

Trees are very important to people, animals, insects, fungi, and even other trees. This is because trees provide so many things for people and the forest, including shelter, habitat, food and oxygen. This adventure will help you identify six of the most common trees found along the Cedar River trail.



For your safety, stay on the trail and be aware of your surroundings. Be a citizen forester by contacting the City of Renton at (425) 430-6600 if you discover a hanging branch or leaning tree.

