

Just like trees, seeds come in different shapes and sizes. With a little help from soil nutrients, moisture and sunlight, seeds can sprout into seedlings. For most tree species, when the sprout has reached 4 feet tall and up to 4 inches in diameter it becomes a sapling. Saplings officially become trees when their trunks are thicker than 4 inches in diameter at chest height.

Tree Cycle Checklist:
Can you find a...

Seed? _____ Seedling? _____ Sapling? _____ Tree? _____ Snag? _____ Fallen Log? _____

Tree Cycle

Most trees will continue to grow until their death. Sometimes, dead trees don't fall to the forest floor immediately. These trees, called snags, play an important role as habitat in the forest. Fallen trees and snags slowly decompose, recycling valuable nutrients back into the soil. This enriched soil helps sprouting seeds grow into healthy saplings, which then become full-grown trees to complete the cycle.

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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 TRACK Trail Adventure will help you identify six of the most common trees found along this trail.

Use this brochure to identify and learn about trees as you hike along the trail. Come back and explore often. Nature changes daily!

Green Ash (*Fraxinus pennsylvanica*)



A medium-sized tree with **compound leaves** (many leaflets on one stem), green ash grows well in many areas of South Dakota. The winged seeds last through the winter and attract birds, deer and rabbits. Native Americans used the wood to make bows, arrows, tipi pegs, drums and meat-drying racks. If you have a wooden tennis racket or baseball bat, it might be made from green ash.

Cottonwood (*Populus deltoides*)



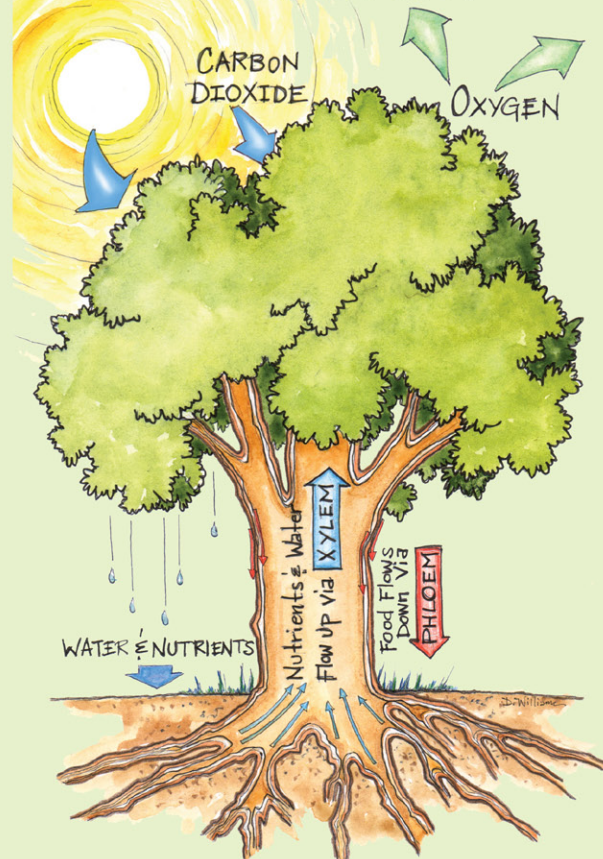
Cottonwood is the largest and fastest growing tree in South Dakota. The tree is native to moist soils along streams and wetlands throughout the state. Native Americans ate the young sprouts and inner bark because of its nutritive value and sweetness. The wood is used for making boxes, crates and pallets.

Bur Oak (*Quercus macrocarpa*)



This native, long-lived tree is often called mossy cup oak because of the fuzzy margin of the cup that covers about half of the acorn. Bur oak is a drought-resistant tree that has taproots that can grow to be fourteen feet long. Most of the large bur oaks were harvested by pioneers for cabins, fence posts and fuel. Acorn soup or mash was a staple of many pioneers.

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, Wiggins' it Works

Black Hills Spruce (*Picea glauca*)



South Dakota's official state tree, the Black Hills spruce is a unique variation of the white spruce, and occurs naturally only in the Black Hills. The needles are shorter and less prickly than those of the blue spruce. The cones are much smaller too. The winged seeds provide food for birds, squirrels and chipmunks, while the dense foliage is excellent for nesting.

Ponderosa Pine (*Pinus ponderosa*)



Ponderosa pine is an evergreen that has needles in groups of two or three and has red, cracked bark that smells like vanilla. Ponderosa pines provide important habitat for wildlife. Porcupines feed on the bark and deer browse the needles. The seeds are eaten by chipmunks, mice, and birds like turkeys and nuthatches.

Silver Maple (*Acer saccharinum*)



Silver maple is a fast-growing tree with scaly gray bark and leaves with deep, pointed lobes. Like other maples trees, it has winged seeds (called **samaras**) that spin when they fall. Due to its rapid growth, silver maple is popular as a landscaping tree and for wind-breaks on farms. The sap was used by Native Americans as a remedy for various physical ailments.