



NATURE DETECTIVES

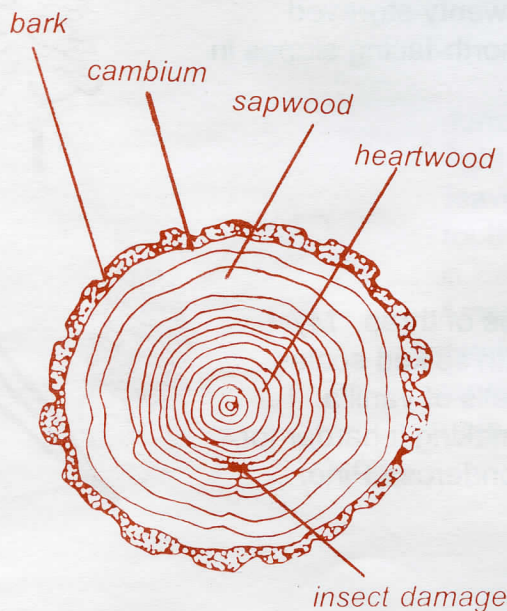
Tremendous Trees

As the longer days of summer change to the shorter days of fall, the leaves turn gorgeous reds, yellows and browns. How does that happen? The green you see in summer leaves comes from the pigment chlorophyll. Chlorophyll catches sunlight and makes sugar and oxygen out of water and carbon dioxide. This process is called photosynthesis. The sugar is the food for plants. Come fall, the leaf gets less water from the roots and the green chlorophyll disappears. Some leaves like the aspen, turn yellow. Others like the oak, turn brown. Still others, like the maple, turn red or orange.

Soon all the leaves fall to the ground and become food and cover for beetles, snails, and other small animals. Eventually, the leaves decompose and become part of the soil.



The Inside Story



Have you ever looked inside a tree? If you look at the top of a tree stump you will see the sapwood with rings and the core of dead heartwood. Each ring represents one year of growth. Count the rings and you know how old the tree is. Rings can tell you the history of the tree. Rings that are far apart tell of a good year with plenty of rain and sunshine; rings close together tell of less rain; filled in holes tell of insects that lived in the tree.

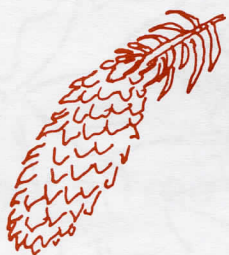
Between the sapwood and the bark is cambium. Cambium makes new cells for the rings and bark. The bark is like a jacket that protects the inside. Bark can be thick or thin; gray, black, or brown; smooth or rough. Next time you are hiking, place a piece of paper over the bark. Rub your pencil over the paper and you will have a "bark fingerprint".

Do You Know Me?

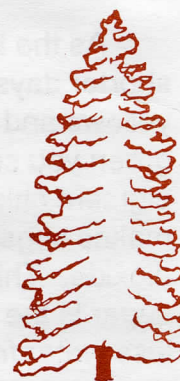
Trees are like people. They have characteristic shapes, sizes, leaves, flowers or cones and seeds. How many of these common species do you recognize?

Pines

Unlike deciduous trees, we do not lose our leaves all at once. So we stay green all year and are called evergreens. Our leaves are needle-shaped. We do not have flowers and we all store our seeds in cones. Although all three of us belong to the Pine family we look different.



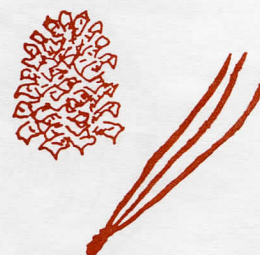
I am the state tree of Colorado. My bluish, sharp pointed needles grow in spirals around my twigs. Try rolling a needle between your fingers. It is difficult, right? The needle is not cylindrical. My pale brown cones have papery scales and hang down. I am found along canyons and rivers. I am a Colorado Blue Spruce.



My needles also grow in spirals but are flat and soft. My cones hang downwards. They have three-pronged bracts between the scales. Native Americans think of them as tiny mice hiding from a forest fire. Do you see the tail and hind legs? My thick bark protects me from ground fires. I can get as tall as a twenty-storeyed building. I am common on cooler, north-facing slopes in Colorado. I am a Douglas Fir.



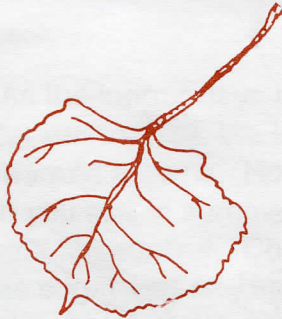
My long needles come in groups of three. My seeds are stored in brown cones with spiked scales. My bark is brown, furrowed and smells of vanilla. I drop my lower branches as I grow making it harder for a forest fire to engulf me. I am a Ponderosa Pine.



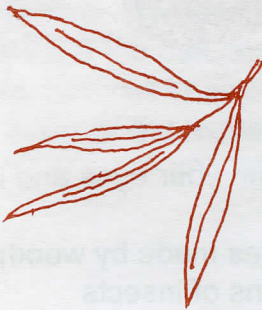
Willows



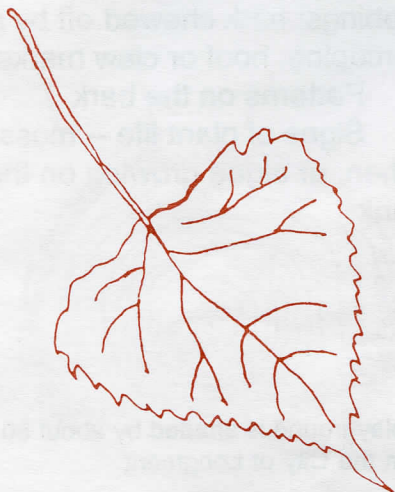
We love wet feet so we grow in moist areas along creeks and ponds. Our catkins, the caterpillar-like flowers, come out before our leaves which turn a lovely yellow in the fall. All three of us are deciduous trees and members of the Willow family. Although we belong to one family we are very different.



My smooth, grey bark is covered with a powder that protects me from the sun -- my sunscreen! Beaver love eating my leaves and twigs. You often find hoof, teeth, and antler marks of elk on my bark. My leaves are heart-shaped and quake in the slightest breeze. I am an Aspen.



I have orange twigs and a brown trunk. My leaves are lance-shaped. My branches bend and swing like a pendulum in the wind. Deer, elk, and beaver eat my leaves and twigs. I am a Peachleaf Willow.



I am BIG. I have furrowed grey bark and light yellow twigs. My leaves are triangular and toothed. Owls often nest in my branches. Native Americans make a yellow dye from my buds. Hopis carve dolls out of my roots. I am a Cottonwood.



Crown Me

Meet a Tree

Walk through a forest, park, or yard and choose a tree.

Close your eyes and

Hug it -- how big is it?
can you reach around it?

Smell it -- does it remind
you of anything?

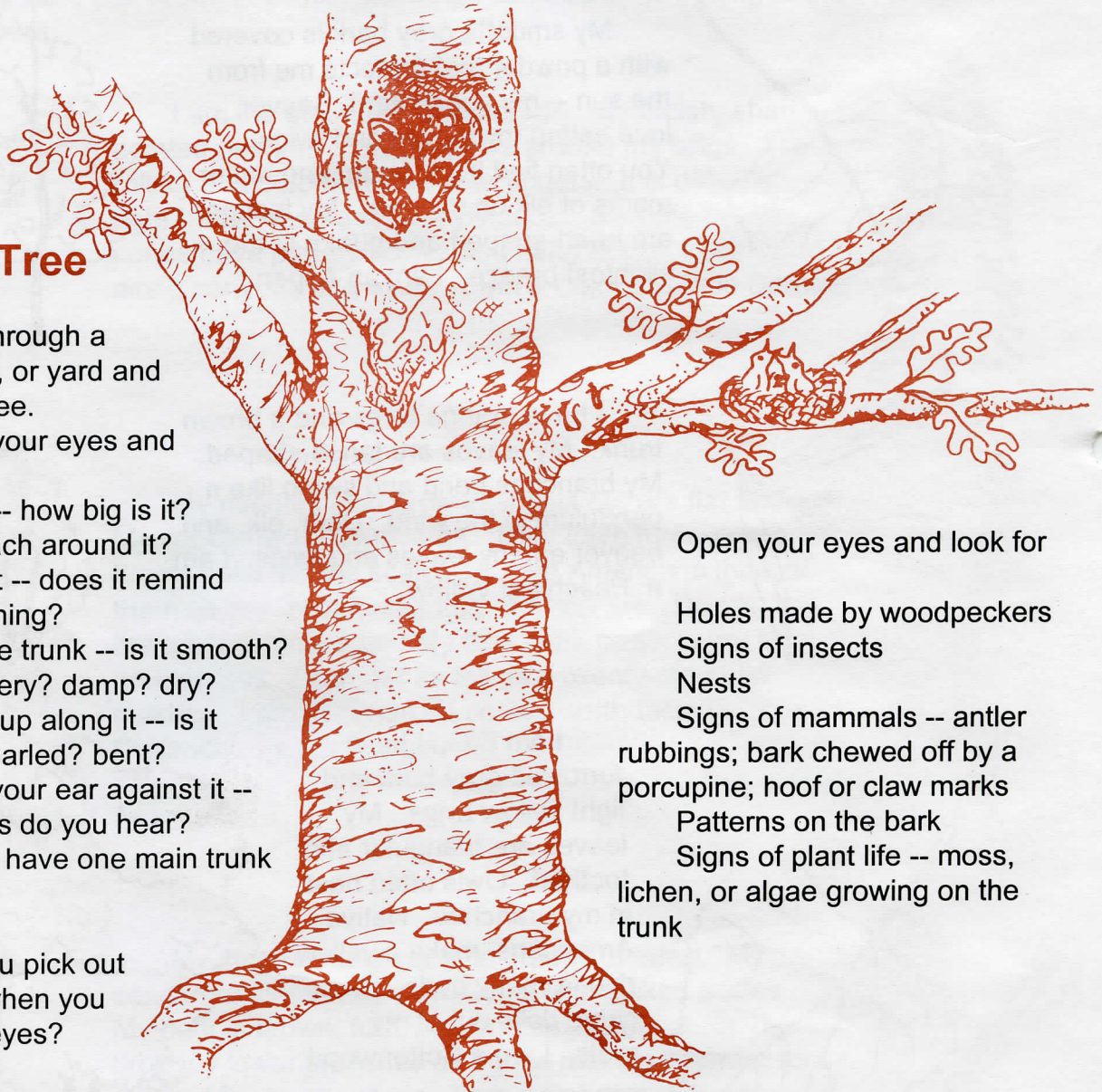
Feel the trunk -- is it smooth?
rough? papery? damp? dry?

Reach up along it -- is it
straight? gnarled? bent?

Press your ear against it --
what sounds do you hear?

Does it have one main trunk
or several?

Can you pick out
THIS tree when you
open your eyes?



Open your eyes and look for

Holes made by woodpeckers

Signs of insects

Nests

Signs of mammals -- antler
rubbings; bark chewed off by a
porcupine; hoof or claw marks

Patterns on the bark

Signs of plant life -- moss,
lichen, or algae growing on the
trunk

Thompson Park in Longmont is a great place to meet a tree. The playground is shaded by about 50 different tree species! A booklet identifying all these trees is available from the City of Longmont (303-651-8446).