

IMPORTANT LEAF CHARACTERISTICS:

Arrangement on Twig

- Alternate (most)
- Opposite

Dissection

- Simple (no leaflets)
- Compound
 - Pinnately
 - Palmately

Shape

- Broad or narrow
- Symmetry

Margins

- Toothed or smooth
- Lobed

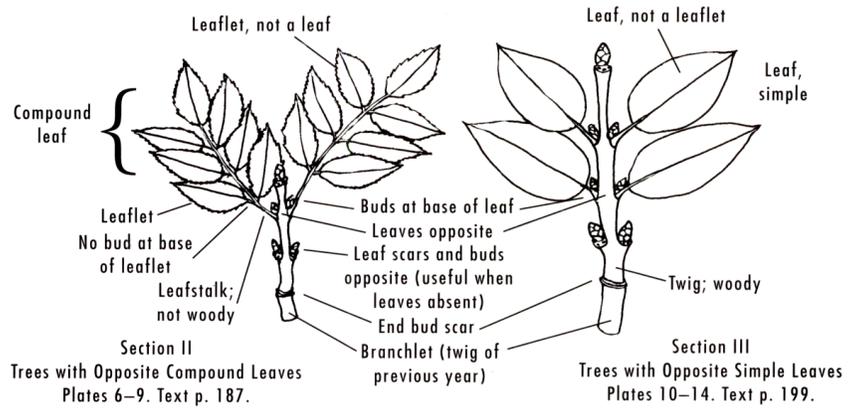
Venation

- Texture
- Pattern

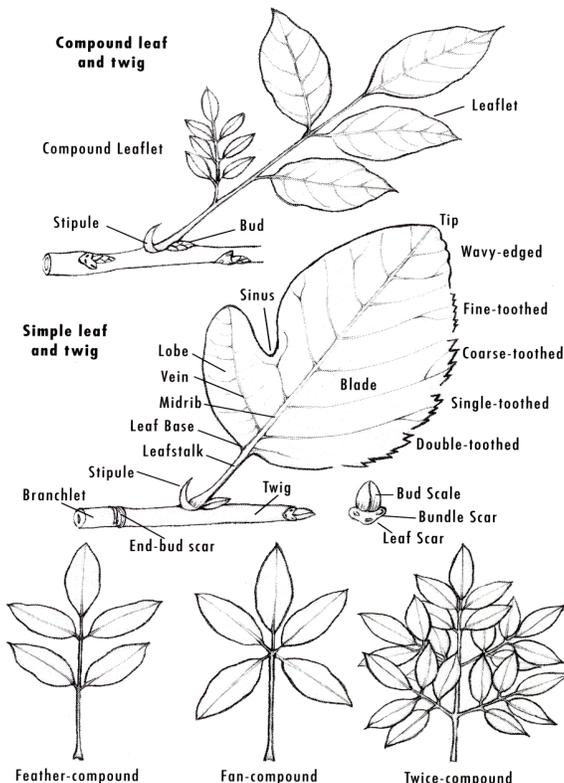
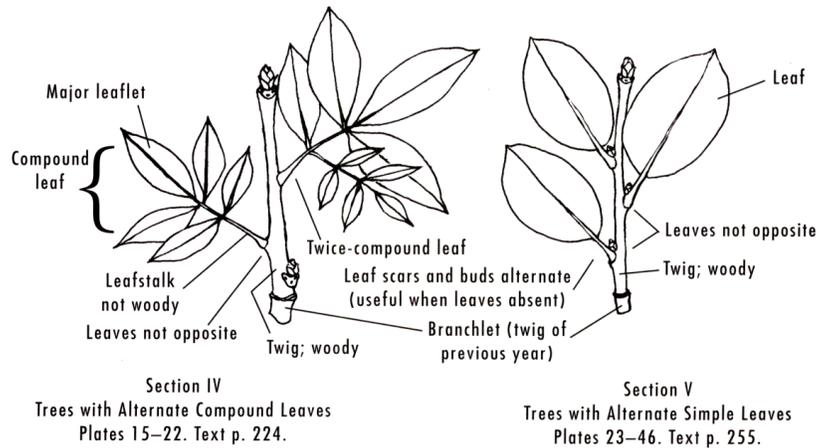
Texture

- Thin or leathery
- Smooth or hairy

LEAVES OPPOSITE OR IN WHORLS



LEAVES (not leaflets) ALTERNATE



Some leaf characteristics can vary depending on environmental conditions (light, temperature) and condition of the tree. Bark, bud, twig, fruit, and flower characteristics can also be diagnostic, but leaves are a good place to start. Many good guides exist, including those from which these drawings were taken:

Trees of North America

CF Brockman & R Merrilees,
Golden Press

Eastern Trees

GA Petrides & J Wehr
Houghton Mifflin

SIMPLE LEAVES, UNTOOTHED (in shape categories)

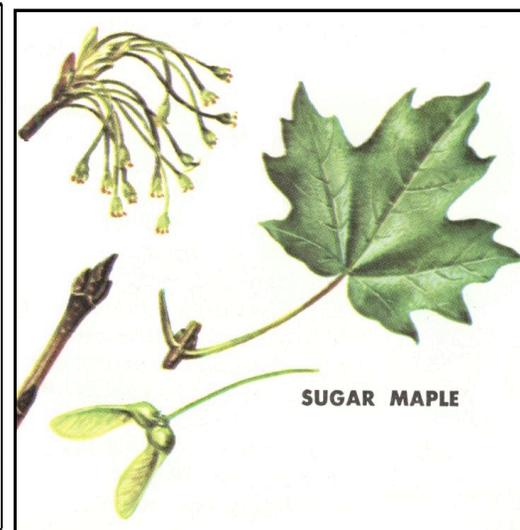
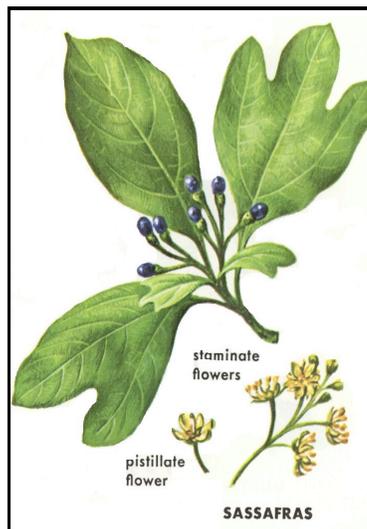
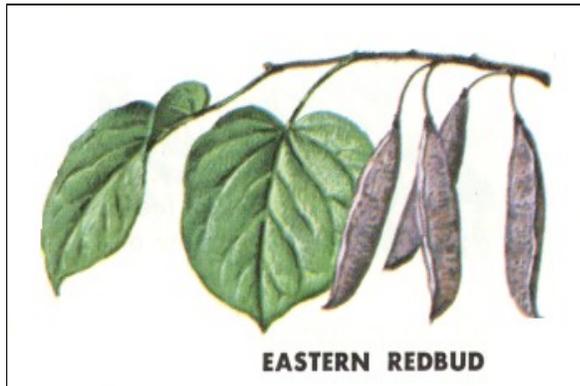
Simple Shapes:

CC: Redbud (*Cercis canadensis*): heart-shaped, dark thin rough bark (purple flowers in spring)

TA: Basswood (*Tilia Americana*): heart-shaped but toothed; lightly ridged bark, oval clumped trunks

CF: Flowering Dogwood (*Cornus florida*): oblong, veins become parallel to edge; med. brown flaky bark

SA: Sassafras (*Sassafras albidum*): 1-3 rounded lobes ("mittens"); fragrant cinnamon brown twigs

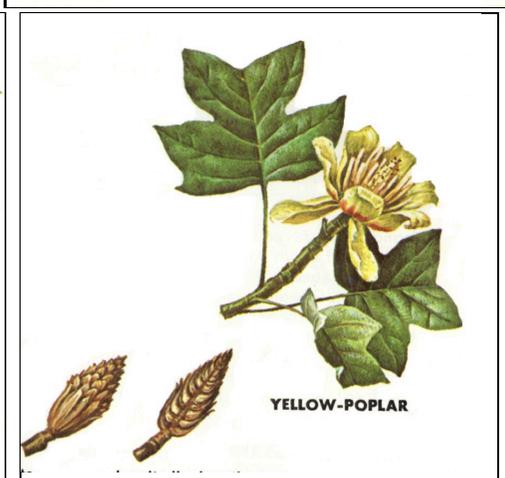
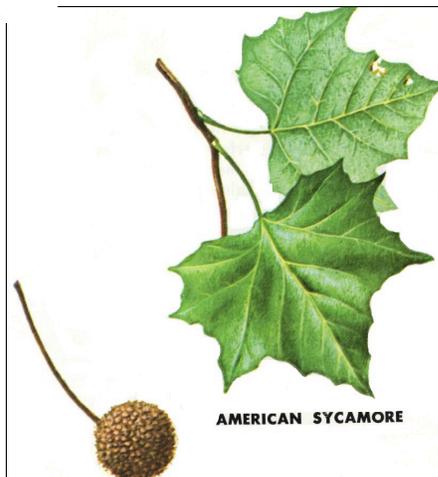


Palmately lobed:

AS: Sugar maple (*Acer saccharum*)
pointed lobes;
mostly smooth gray bark

PO: Sycamore (*Platanus occidentalis*)
large, pointed lobes;
white, gray & green bark

LT: Tulip Poplar (*Liriodendron tulipifera*)
3 squared-off lobes;
straight ridged grayish bark

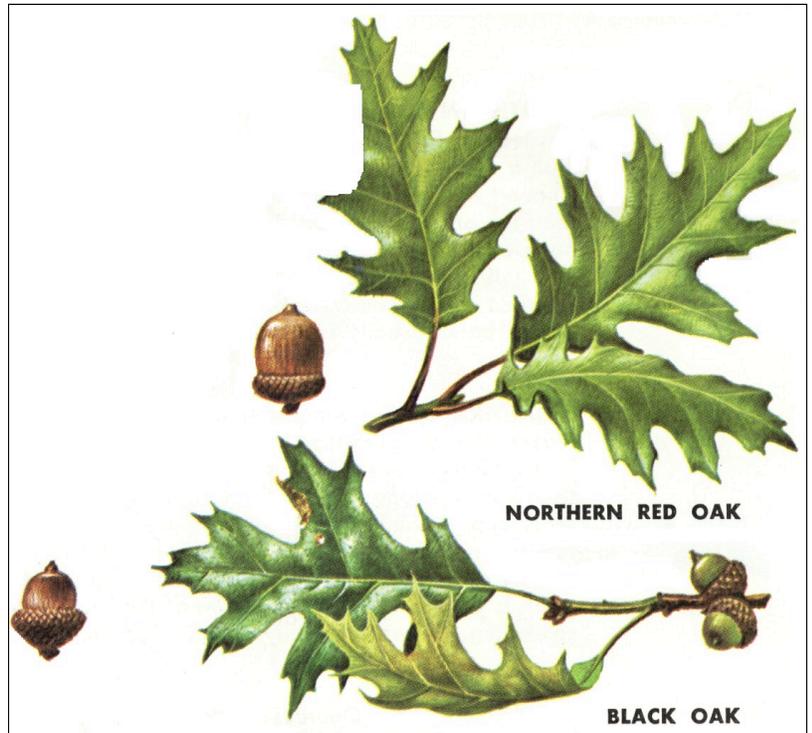


Pinnately lobed: plated light bark (white oaks)
or dark thick furrowed bark (black/red)

QR: Northern Red Oak (*Quercus rubra*)
Thin smooth leaf, pointed shallow lobes;
Dark bark with smooth streaks;
smooth tight buds and acorn cap

QV: Black Oak (*Quercus velutina*) leathery,
two-tone, hairy, deeper lobes;
rough bark & acorn caps;
"hairy" buds; yellowish underbark

QA: White Oak (*Quercus alba*)
rounded lobes, whitish plated bark



QM: Chinkapin Oak (*Quercus muhlenbergii*)
wavy margins (rounded shallow lobes); whitish
plated bark

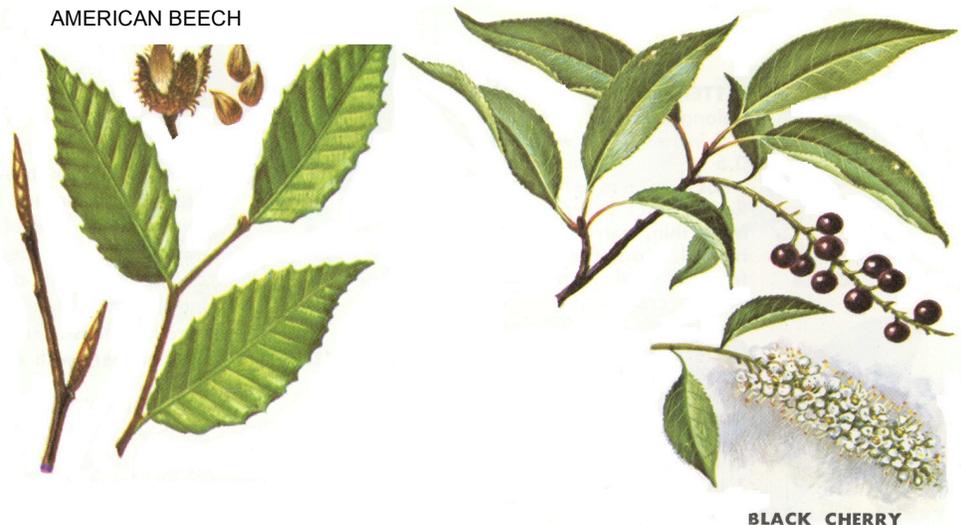


SIMPLE LEAVES, TOOTHED

TA: Basswood (*Tilia americana*)
[also above] heart-shaped, thin;
furrowed light brown bark;
often clumped

FG: Beech (*Fagus grandifolia*) thin
pointed oblong, few coarse teeth;
straight raised veins;
smooth gray bark; icpick bud

PS: Black Cherry (*Prunus serotinal*)
pointed oblong, finely toothed,
wavy margins, dark & shiny;
dark thin plated bark with light
horizontal lenticels (raised lines)



OV: Hophornbeam (Ironwood)
(Ostrya virginiana); lance-shaped,
 double-toothed; loose shaggy
 bark; green buds



HOPHORNBEAM

CR: American hornbeam
(Carpinus caroliniana) (Ironwood,
 Bluebeech, musclewood,
 lance-shaped,
 double-toothed; smooth gray
 sinewy bark; rusty brown buds



AMERICAN
 HORNBEAM

Elms: long-pointed oval larger at
 rounded, asymmetrical base,
 double-toothed, rough

UA: American Elm (*Ulmus americana*)
 thick corky bark with light layers;
 twigs & buds light brown, fuzzy

UF: Slippery Elm (*Ulmus fulva*)
 dark green and coarsely hairy below;
 thick bark without light layers,
 inner bark slippery;
 twigs and buds very hairy;
 buds very dark

CT: Hackberry (*Celtis occidentalis*)
 pointed oval, rounded base,
 thin, single-toothed; gray bark has
 sharply raised bumps & ridges



HACKBERRY



AMERICAN
 ELM

SLIPPERY ELM

PINNATELY COMPOUND LEAVES (alternate except for ash)

FA: White Ash (*Fraxinus americana*) **opposite** leaves, 5-9 leaflets untoothed or rounded teeth; fissured gray bark; small dark flattened bud

AN: Boxelder (*Acer negundo*) 3-5 notched leaflets; poison ivy-like; rough light brown bark

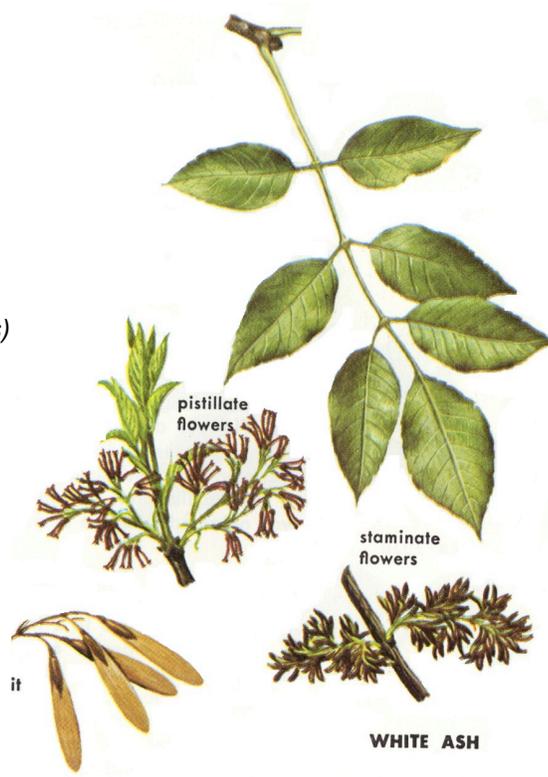
JN: Black Walnut (*Juglans nigra*) 7-17 leaflets (most); thick furrowed rough brown bark

Hickories: alternate leaves; 5-11 leaflets sharply toothed

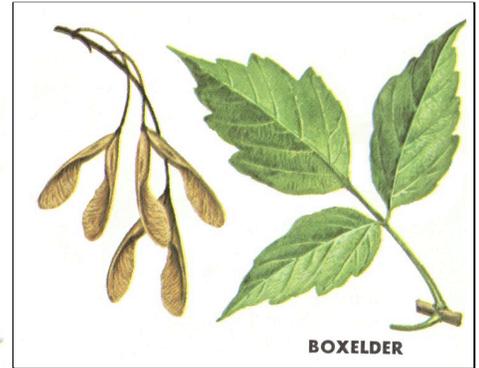
CA: Bitternut (*Carya cordiformis*) 7-11 leaflets; smooth ridged bark; "candleflame" bud; thin yellowish pointed fruit husk

CG: Pignut (*Carya glabra*) 5-7 leaflets, smooth; ridged diamond pattern bark; bud small, oval; fruit narrow at base, husk smooth, dark

CO: Shagbark (*Carya ovata*) 5 leaflets, hairy below on primary vein; distal leaflets larger bark gray, hard loose plates; large oval hairy dark bud; thick ridged husk



WHITE ASH



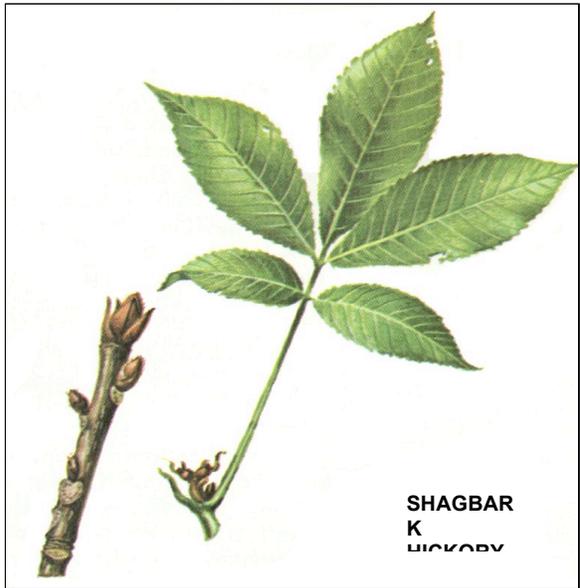
BOXELDER



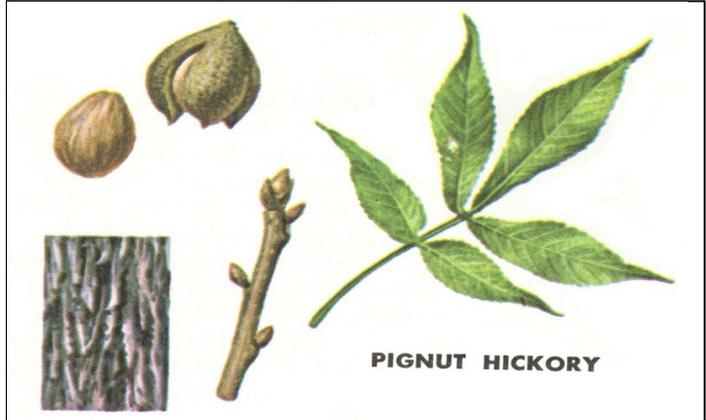
BLACK WALNUT



BITTERNUT HICKORY



SHAGBAR
K
HICKORY



PIGNET HICKORY