Parts of a Plant

LEAFTYPE

Simple: Single leaf attached to stem at bud

Compound: Leaf attached to stem at bud and subdivided into leaflets





simple

LEAF ARRANGEMENT

Opposite: Leaves across from each other on stem **Alternate:** Leaves staggered along stem





opposite

LEAF VENATION PATTERNS







LEAF MARGIN TYPES







TERMS

Exfoliating: Bark peels off in shreds or in thin layers **Hybrid:** A cross between two or more similar plants, can be naturally occurring or man-made

 $\textbf{Pubescent:} \ \mathsf{Covered} \ \mathsf{with} \ \mathsf{short}, \ \mathsf{soft} \ \mathsf{hairs}$

Trifoliate: Three-leaved

Variegated: Striped, margined or mottled with colors other than green where green is normal

Leaf Identification

Examine the leaves in your collection to answer the following identification questions. Use the identification terms and *Parts of a Plant* graphic for clues.

1. Which tree(s) has compound leaves?	
2. Which tree(s) has leaves with opposite arrangement?	
3. Which tree(s) has leaves with the following leaf vein page	atterns?
A. Palmate	
B. Pinnate	
C. Parallel	
4. Which tree(s) has leaves with the following leaf margin	n types?
A. Entire	

Our Mission: Holden Forests & Gardens connects people with the wonder, beauty, and value of trees and plants, to inspire action for healthy communities.

Our Vision: All communities transformed into vibrant places where trees, plants, and people thrive.



B. Serrated.

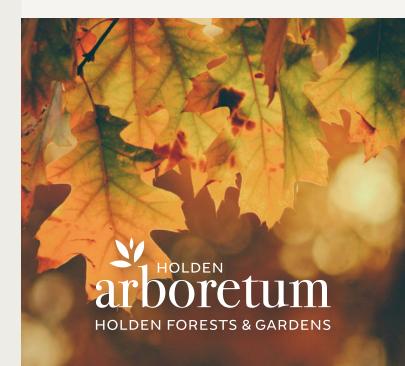
C. Lobed

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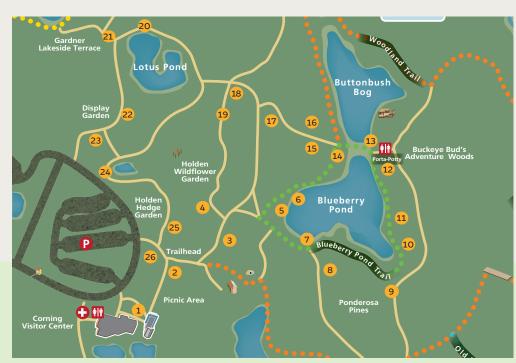
Leaf Trail Rules

- Collect only on the designated trail, from marked trees or groups of trees. If possible, collect from leaves that have already fallen.
- Make only one leaf collection per group/family.
- There are 26 deciduous trees (trees that lose their leaves) marked with numbered tags and flagging tape.
- Use the map in this brochure and the trail markers to guide yourself along the trail.
- This is an easy trail and the approximate walking and collecting time is 11/2 hours.



Share a few of your identified leaves on social media and use the hashtag #HoldenLeafTrail

What characteristics helped you identify them?



As you follow the Leaf Trail, look for the trees with numbered signs under them.

- JAPANESE ZELKOVA Zelkova serrata Native to Japan. A good choice for a shade tree.
- HOP HORNBEAM Ostrya virginiana Dense, strong wood; bark has long vertical "scratch" marks.
- TULIPTREE Liriodendron tulipifera Named for its distinctive tulip-shaped flowers. One of our straightest forest trees, it can grow to 150.' Native Americans use wood to make dugout canoes. It is also called Yellow Poplar.
- PAWPAW Asimina triloba Drooping, yellow, fall foliage with edible fruit that tastes like a banana.
- AMERICAN SYCAMORE Platanus occidentalis Commonly seen along rivers and creeks. Bark is a mosaic of green, gray, brown, and white patches; 1" fruit balls, persist throughout the winter.
- RED MAPLE Acer rubrum Also known as swamp maple. Petioles, seeds and emerging spring leaves are red.
- SWEETBAY MAGNOLIA Magnolia virginiana Semievergreen; thick leaves with whitish fine hairs on underside; aromatic spicy foliage and twigs. Grows best in wet soils; native to eastern coastal U.S.
- REDBUD Cercis canadensis An understory tree with heartshaped leaves; 2"-3" long brown pods and reddish-purple flowers in April; a member of the legume family.
- COMMON PERSIMMON Diospyros virginiana Yellow-orange fruit is very edible by humans and wildlife when it is softened by a hard frost in late fall.

- WILD GOOSE PLUM Prunus hortulana Small bushy tree with simple, serrated leaves. During fall, leaves lighten to a bright green then turn red.
- 11. RIVER BIRCH Betula nigra Light cinnamon very thin, exfoliating bark; well suited to wet areas; borer resistant.
- PAPER BIRCH Betula papyrifera Chalky white bark marked with black; peels into thin paper-like layers, hence the common name; Native Americans made canoes and buckets from the tree.
- TREMBLING ASPEN Populus tremuloides The most widely distributed tree in North America. Flattened petioles allow the leaves to "tremble" in the wind.
- 14. **BITTERNUT HICKORY** *Carya cordiformis* Sulphur-yellow buds. The leaf is compound; be sure to collect the whole leaf.
- WHITE OAK Quercus alba Slow-growing, long-lived, close grained wood. It is the best all around hardwood in America.
- 16. **SWEETGUM** *Liquidambar styraciflua* Spiny round fruit; corky wings on twigs. The resin produced by the tree was historically used for medicinal purposes. Resin currently used in the production of turpentine in South America.
- 17. STEWARTIA Stewartia pseudocamillia A small tree, native to Japan, this tree makes an excellent ornamental patio tree with its white camellia-like flowers in July and beautiful orange-red fall foliage.
- 18. DAWN REDWOOD Metasequoia glyptostroboides A deciduous conifer thought to be extinct until a few specimens were discovered in China in 1941. Now heavily propagated and commonly found in the nursery industry.

- 19. SHINGLE OAK Quercus imbricaria Its easy to split wood was used by early pioneers to make shingles. The only native oak to Ohio with simple, non-lobed leaves with entire margins.
- 20. KATSURA Cercidiphyllum japonicum One of the most enjoyed features of the katsura tree is its candy-like fragrance during fall as the leaves change color.
- 21. NORTHERN RED OAK Quercus rubra Large and rapidly growing, the bitter tasting acorns are not favored by squirrels.
- 22. VARIEGATED SWEET GUM Liquidambar styraciflua 'Variegata' – White or yellow area of leaf lacks chlorophyll giving a two-toned appearance; the whole leaf does not photosynthesize so variegated plants tend to be less vigorous.
- 23. PAPERBARK MAPLE Acer griseum Trifoliate leaves; cinnamon brown, exfoliating bark; native to central China.
- 24. **SUGAR MAPLE** *Acer saccharum* A major component of northeast Ohio forests, sap is collected and boiled to make maple syrup; it takes 40 gallons of sap to make one gallon of maple syrup.
- 25. AMERICAN BEECH Fagus grandifolia A tree with smooth gray bark; cigar-shaped buds; three-sided beech nuts form in pairs in a prickly burr.
- 26. **TUPELO** *Nyssa sylvatica* Also known as black gum; glossy red fall foliage; bluish-black fruit is relished by wildlife.