Forestry in the Classroom Series

Common Trees of Kentucky

An Educational Series for Grades 4, 5 and 6

Common Trees of Kentucky

A tree is a woody plant with a single trunk that is at least twenty feet tall when the plant reaches maturity. It is a perennial-it lasts throughout the year and does not die with the onset of winter. Trees are divided into two categories. The evergreens have cones and needle-like leaves that last through -out the year. Deciduous trees have fleshy fruits and lose their foliage in the fall, replac-ing it with new growth in the spring. Since Kentucky has ample moisture and fertile soil, it boasts a rich variety of trees.

The eastern part of Kentucky has Appalachian mixed mesophytic forests. The dominate trees in this area are Yellow-poplar, American Beech, White Oak, Sugar Maple and Eastern Hemlock.

The central part of Kentucky has a lot of for-est edge trees such as Eastern Redcedar, Sas-safras, Hackberry, hickory and Bur Oak.

The western part of the state has a lot of bot-tomland species. The dominate trees are Green Ash, Sweetgum, Pin Oak and Cherry Bark Oak.

The study of trees is followed by many people as an enjoyable and rewarding hobby. Much literature has been written that will help you in learning more about these fascinating plants. The University of Kentucky's Coopera-tive Extension 4-H program has many projects dealing with the study of trees and tree iden-tification. One of the big 4-H projects is *Intro-ducing Yourself to Trees*. This 4-H forestry project involves leaf collection, leaf prints and branch, leaf & fruit displays. This is an excellent opportunity to get excited about looking at and learning to identify some com-mon Kentucky trees. Check out their publica-tion at: http://www.ca.uky.edu/agc/pubs/4df/4df01pb/4df01pb.pdf (4-H Forestry Project: Introducing Yourself to Trees)

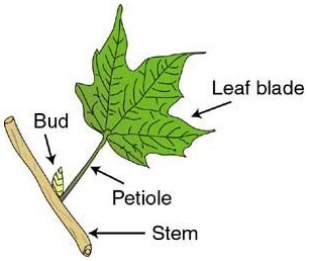
Become A Tree Detective

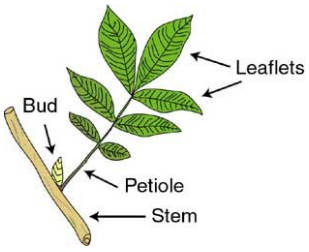
Like lots of other living things, trees have their own names and individual characteristics that help us distinguish one kind from another. Identification by leaves, bark, fruit, flowers,

twigs and shape are the most common. Although there are several ways to identify trees, leaves are easiest for beginners.

Leaves are the photosyn-thetic units of trees. They use light to make energy and convert carbon dioxide into sugar. Sugar is used as the "food" that makes trees grow. Besides being beauti-ful trees are environmental friendly. They filter the air and reduce the temperature of urban areas. They also put ox-ygen back into the atmosphere.

A leaf can be identified on the tree because its petiole always connects to the stem where a bud is formed.





Once you know that you have the whole leaf and not just a part of the leaf, you're ready to begin detecting. Become a tree detective by using the information on the following pag-es to learn how to identify some of Ken-tucky's most common trees.

Frequently Asked Questions

Q. What is leaf arrangement?
A. Leaf arrangement refers to the branching pattern of trees. Leaves occur on twigs in one of three ways. The two most common ways are opposite leaf arrangement and alternate leaf arrangement. The third and most uncommon is a whorled leaf arrangement. Only 5 family of trees in Kentucky have opposite leaf arrangement. They are: dogwoods, ashes, maples, Paulownia and buckeyes (or Horse Chestnuts).

Opposite

Alternate

Q. How do I know if leaves are simple or compound?
A. Simple leaves have a single leaf blade, while compound leaves have many leaflets. Remember, you can tell the difference between a leaf and a leaflet by looking for the **bud** at the base of the **petiole**.

Simple

Compound

Q. What are leaf margins?
A. Leaf margins refer to the edge of the leaf. A leaf margin can be smooth or have teeth. It can also be lobed or unlobed. Any combination of these characteristics can happen also.

Entire, the margin of the leaf is smooth, with no teeth or indentions. (i.e. Eastern Redbud)

Lobed, the margin of the leaf is indented into lobes (like an ear). Some are rounded and some are not. (i.e. Red Oak)

Toothed, the margin of the leaf has teeth, bigger than on a serrated leaf (i.e. Beech)

Serrated, the margin of the leaf has a jagged edge like a saw. (i.e. Black Cherry)

Can you identify these common trees by their leaves? Use the Dichotomous key on the next page to help you.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

13. _____

11. _____

12. _____

14. _____

Common Trees of Kentucky

Tree Leaf Key

Using the dichotomous key

The key starts at number 1. Always read both lines per number to determine which category the tree leaf fits. Once you have determined the category, look to the far right to see where to move to next. You will always have two choices. If the character you keyed is the final one than the species will be listed. Read the descriptions closely and carefully.

1. Tree has needles? → Go to 2
1. Tree has leaves? → Go to 3
2. Needles are in groups of two, 1-3" long & twisted? → Virginia Pine
2. Needles are in groups of five, 5-8" long? → White Pine
3. Leaf is simple? → Go to 4
3. Leaf is compound? → Go to 12
4. Leaf is opposite? → Go to 5
4. Leaf is alternate? → Go to 6
5. Leaf is lobed? → Sugar Maple
5. Leaf is unlobed and margins are smooth? → Flowering Dogwood
6. Leaf is lobed? → Go to 7
6. Leaf is unlobed? → Go to 11
7. Leaf is tulip shaped, with 2 symmetrical lobes on either side of the midrib? → Yellow-Poplar
7. Leaf is not tulip shaped, with 2 symmetrical lobes on either side of the midrib? → Go to 8
8. Lobes are palmately (like fingers on the palm of a hand) arranged? → Go to 9
8. Lobes are pinnately (like the veins of a feather) arranged? → Go to 10
9. Leaf is star shaped with 5-7 lobes? → Sweet Gum
9. Leaf is not star shaped; has 3-5 lobes? → American Sycamore
10. Lobes are blunt or rounded? → White Oak
10. Lobes are sharp and bristle tipped? → Northern Red Oak
11. Leaf is heart shaped? → Eastern Redbud
11. Leaf margin is finely serrated? → Black Cherry
12. Leaf is opposite? → White Ash
12. Leaf is alternate? → Go to 13
13. Leaf has 9-17 leaflets, the tip one the same size as the others? → Black Walnut
13. Leaf has 5-9 leaflets, the tip one larger than the others? → Shagbark Hickory

Did You Know?

During the age of sail, tall Eastern White Pines with high quality wood were known as mast pines. Marked by agents of the Crown in colonial times with the broad arrow, they were reserved for the British Royal Navy. During the American Revolution it became a great sport for the patriots to see how many of the King's trees one could cut down and haul off.

Black Locust is the host plant for Silver-spotted Skippers and Clouded Sulphur butterflies.

White Ash is most famous for being the best wood for baseball bats and other sports equipment such as tennis racquets, hockey sticks, polo mallets, and playground structures.

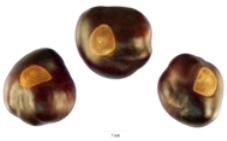
Bark of redbud has been used as an astringent in the treatment of dysentery.

When Kentucky was first settled by the adventurous pioneers, they fancied that they had discovered a substitute for coffee in the seeds of this tree; and accordingly the name of Coffee-tree was bestowed upon it. But when communication was established with the sea-ports, they gladly relinquished their Kentucky beverage for the more grateful flavor of the Indian berry.

The shells of black walnut have many uses including an abrasive cleaning agent for jet engines, filler for dynamite, a filter agent in smoke-stacks, and a flour-like carrying agent for insecticides.

Sugar Maples engage in hydraulic lift, drawing water from lower soil layers and exuding that water into upper, drier soil layers. This not only benefits the tree itself but also many other plants growing around it.

The name "Buckeye" came from the Native Americans who noticed that the glossy, chestnut-brown seeds with the lighter circular "eye" looked very similar to the eye of a buck (male)



Though many animals depend on Sweetgums for seeds, they don't begin producing them for about 20 years.

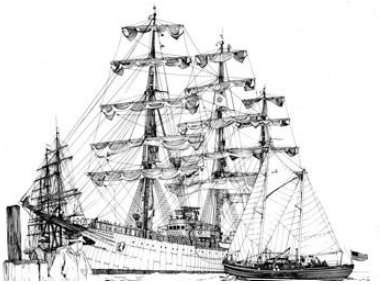
Chips of beech wood are used in the brewing of Budweiser beer.

Flowers from the Flowering Dogwood are not very big, but they look big, because they have large petal-like objects, called bracts, coming from them. These large white bracts look like part of the flower.

Trees of Many Uses

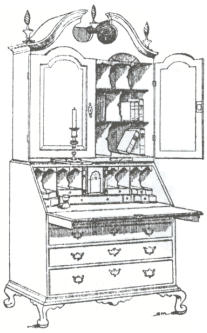
From early times to the present day, people have found uses for many of the kinds of trees that grow in Kentucky. Match the products with the trees below. (Answers on back page.)

1. Baseball bat _____



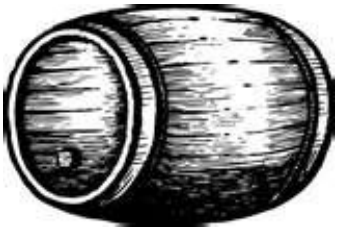
6. Masts for ships_____

4. Fence Posts_____



2. Smoker_____

7. Docks _____



5. Furniture_____

8. Barrel _____

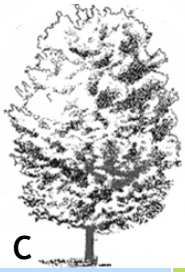
3. Syrup _____

A

Bald Cypress The wood lasts well under wet conditions.

B

White Oak The wood is non-porous (holds water)



C

Sugar Maple Wood is used for many items but it's famous for its sap.

D

E. Redcedar Wood is insect resistant and long lasting.

E

Hickory Wood is excellent for burning.

F

Black Walnut The wood is prized by wood workers.

G

White Pine Tall, straight trees.

H

White Ash Wood is hard, strong and elastic.

O.K. Tree Detectives—Use the word key below to find the hidden glossary terms in the puzzle. Look up any words you don't know in a dictionary to find their meaning.

s	k	w	f	u	y	j	f	r	f	n	i	k	t	a	c	t	y	e	c
b	y	n	f	v	h	j	a	d	f	m	p	i	g	o	w	r	a	o	s
y	t	m	i	j	t	j	v	l	e	i	d	n	m	i	k	v	n	c	d
m	u	i	b	m	a	c	o	r	n	w	i	p	g	l	u	i	p	a	e
d	b	x	r	i	p	a	r	n	c	l	o	s	p	c	f	a	x	v	e
b	y	m	o	n	o	x	a	t	d	u	b	r	a	e	l	p	m	i	s
y	s	r	u	a	l	t	e	r	n	a	t	e	r	m	e	b	k	t	e
h	g	n	s	d	e	c	i	d	u	o	u	s	a	u	a	h	q	y	b
c	u	x	r	l	l	g	x	c	a	a	t	t	s	b	f	r	b	r	o
x	z	s	y	k	l	e	a	n	a	n	e	u	i	u	l	h	a	a	l
d	f	e	k	r	a	b	r	y	e	l	o	h	t	r	e	c	h	s	s
n	r	v	s	e	n	o	c	i	y	e	l	d	e	h	t	o	o	t	k
p	u	a	u	n	d	e	r	s	t	o	r	y	s	s	s	p	d	o	m
e	i	e	l	o	i	t	e	p	l	n	c	g	e	l	i	b	e	o	f
i	t	l	a	u	u	i	r	d	c	d	e	l	r	o	h	w	b	r	v
f	v	k	e	n	b	s	c	u	l	d	c	p	r	e	e	n	o	i	p
a	o	i	d	t	c	o	s	e	n	e	h	c	a	f	v	h	l	g	l
n	x	n	n	a	v	p	l	z	p	k	s	b	t	j	x	e	r	n	n
w	s	q	l	e	x	p	f	g	d	e	n	s	e	l	y	j	u	u	e
h	u	y	r	s	s	o	v	k	q	z	e	j	d	a	h	z	s	f	y

achenes • acorn • allelopathy • alternate • bark • bracts • bud • cambium • catkin • cavity • compound • cones • conifers • cover • deciduous • densely • entire • evergreen • fibrous • fruit • fungi • furrowed • girdling • globular • husk • leaflets • leaves • lobed • lobes • needles nutrients • opposite • palmately • parasites • petiole • pinnately • pioneer • roots • samaras scaly • seeds • serrated • shrub • simple • symbiotically • taxonomy • toothed • trunk • twigs understory • vines • whorled

Answers to Trees of Many Uses match: 1H; 2E; 3C; 4D; 5F; 6G; 7A; 8B

Kentucky Division of Forestry / 300 Sower Blvd.