



DUE DATE: Dec. 19, 2018



Page	Points for.....	Possible	Your score
Cover	First and last name, title, image, color, neatness	5	
6	Common name, fill in the blank, correct colors, neatness	4	
7	Common name, fill in the blank, correct colors, neatness	4	
8	Common name, fill in the blank, correct colors, neatness	4	
9	Common name, fill in the blank, correct colors, neatness	4	
10	Common name, fill in the blank, correct colors, neatness	4	
11	Common name, fill in the blank, correct colors, neatness	4	
12	Common name, fill in the blank, correct colors, neatness	4	
13	Common name, fill in the blank, correct colors, neatness	4	
14	Common name, fill in the blank, correct colors, neatness	4	
15	Common name, fill in the blank, correct colors, neatness	4	
16	Common name, fill in the blank, correct colors, neatness	4	
17	Common name, fill in the blank, correct colors, neatness	4	
18	Common name, fill in the blank, correct colors, neatness	4	
19	Common name, fill in the blank, correct colors, neatness	4	
20	Common name, fill in the blank, correct colors, neatness	4	
Matching	"What Do You Know?"	11	
Fall Colors		8	
	Total	84	= %

Instructions:

1. Use the Key (page 5) to identify the leaves on page 4. Write the common name under each leaf on page 4.
2. On pages 6 – 20 write the common name of each leaf on the line. Spell correctly. Read the information about the tree and fill in the blanks at the bottom.
3. Color the leaves and fruit on each page (pages 6 – 20). Use colored pencils or crayons. No markers. The correct colors are indicated on each page.
4. Using the information given, answer the questions on the pages "What Do You Know?" and "Fall Colors."
5. Make a cover for your booklet. Please include your first and last name and the title, "Illinois Trees." You will also need to have at least one colored image. The cover may be created on the computer and printed out, or it may be hand drawn. You may use colored paper or construction paper for your cover.
6. Please turn in this paper with your booklet, but do not attach it to the booklet. The booklet should contain only the pages (in order) listed in the chart above. You may staple the booklet together, three hole punch it and use brads, or use another method to secure the pages. However, please do not use paper clips.
7. Please spell correctly.
8. The project should be completely done and stapled, etc. when you come to class on the due date. You will not have an opportunity to work on it in class that day at all.
9. If you are absent on the due date, your project is due the first day that you return to school.
10. Since this is a project, homework passes may not be used.

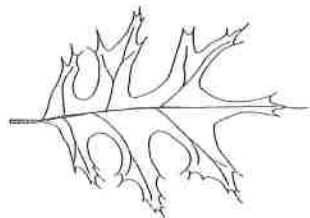
Key

Please note: This key was developed only for the illustrations used on the previous page. It will not accurately identify all tree species and may not identify these 15 species from the wild, since only selected characteristics were used in its development.

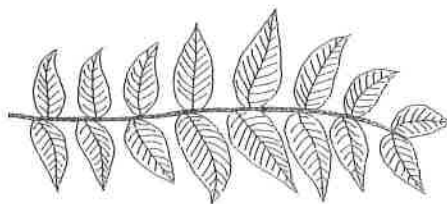
- | | |
|--|--------------------|
| 1a) compound leaf | Go to 2 |
| 1b) simple leaf | Go to 5 |
| 2a) five leaflets present | shagbark hickory |
| 2b) more than five leaflets present | Go to 3 |
| 3a) nine leaflets present | mockernut hickory |
| 3b) more than nine leaflets present | Go to 4 |
| 4a) 11 leaflets present | pecan |
| 4b) more than 11 leaflets present | black walnut |
| 5a) leaf without lobes | Go to 6 |
| 5b) leaf with lobes | Go to 11 |
| 6a) leaf edge smooth | shingle oak |
| 6b) leaf not as described in 6a | Go to 7 |
| 7a) leaf base asymmetrical (not even) | hackberry |
| 7b) leaf base even on both sides | Go to 8 |
| 8a) leaf edge finely-toothed | wild black cherry |
| 8b) leaf not as described in 8a | Go to 9 |
| 9a) leaf edge with large, sharp teeth (points) | chinkapin oak |
| 9b) leaf edge wavy | Go to 10 |
| 10a) leaf wavy along all edges | swamp chestnut oak |
| 10b) leaf wavy along only part of edges | swamp white oak |
| 11a) leaf with rounded lobes | Go to 12 |
| 11b) leaf with pointed tips on lobes | Go to 13 |
| 12a) divisions in leaf reach almost to midline of leaf | bur oak |
| 12b) divisions in leaf are shallow | white oak |
| 13a) leaf with 11 lobes | northern red oak |
| 13b) leaf not as described in 13a | Go to 14 |
| 14a) leaf with five lobes | pin oak |
| 14b) leaf with seven lobes | black oak |

Leaf Identification

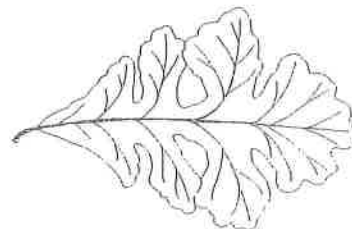
A tree can often be identified just by looking at one of its leaves, if you know what to look for. On this page are drawings of leaves from 15 different tree species. Use the "Key" on the next page to help you identify each species. Then find the matching leaf in the booklet and fill in the tree's "Common Name." The "Identification Characteristics" on page two should help you understand some of the terms. Start with number 1 at the top of the Key for each leaf. You have two choices, 1a and 1b. Select the one that describes this leaf. Your choice will tell you which number to go to next. Again, you have a choice of a or b. When you have made your choice, you will find the name of the tree or be directed to another number. Answers can be found on page 23.



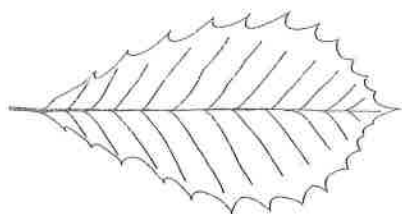
page 6



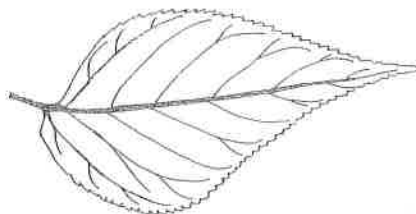
page 7



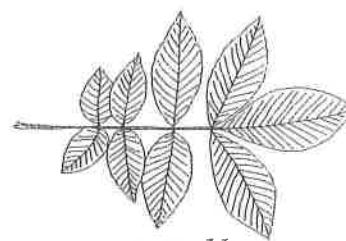
page 8



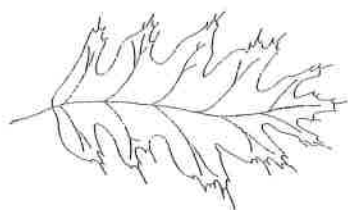
page 9



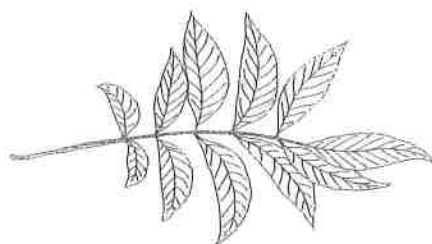
page 10



page 11



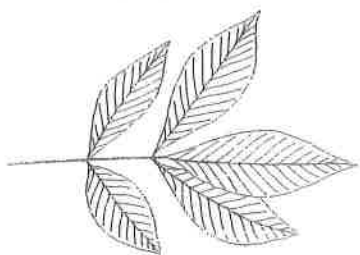
page 12



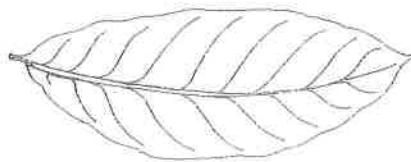
page 13



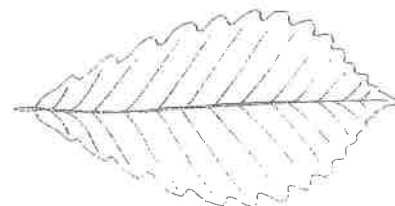
page 14



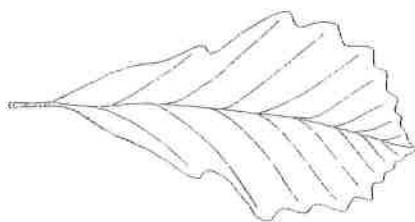
page 15



page 16



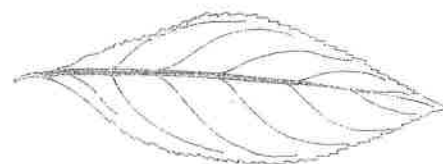
page 17



page 18



page 19



page 20

Fall Colors

Fall is a beautiful season in Illinois. The changing colors of the leaves on deciduous trees bring new wonders each day. Did you ever think about why leaves change color?

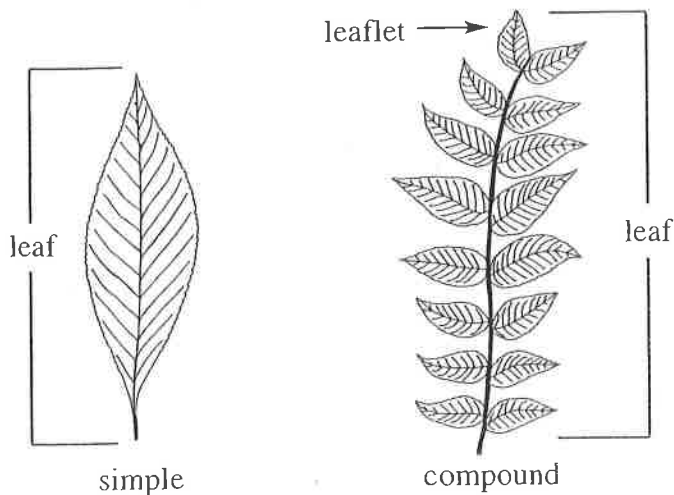
Leaves change color in autumn as the hours of daylight decline and the angle of the sun gets lower in the sky. The green pigment chlorophyll dominates leaves in the spring and summer months. Chlorophyll absorbs the sun's energy and uses it to transform carbon dioxide and water into sugars. As the amount of daylight and the angle of the sun decrease, chlorophyll production is reduced, and it begins to disappear. Carotenoids, pigments which have been present in the leaves throughout the growing season, begin to appear in the fall. Carotenoids include both the orange pigment, carotene, and the yellow pigment, xanthophyll. Anthocyanins form in the leaves of some tree species in the fall and produce red and purple shades. These pigments develop from the sugars that are trapped in leaves. On warm, sunny fall days, the leaves produce sugars. At night, as the air cools, plant transport slows, and the sugars are unable to be transported from the leaves. The brighter the fall sunlight, the more sugars produced, and the more brilliant the colors.

Weather is the most important factor in how colorful leaves will be in the fall. Ample rainfall in the summer leads to healthy trees with many pigments and sugars in the leaves. These leaves will provide beautiful fall colors. Bright, sunny skies in late summer and early fall lead to more red, yellow, bronze and orange shades on leaves. Numerous cloudy days during this time period may cause the production of more gold and yellow tints. Anthocyanins react to soil chemistry, affecting the color the leaves in these trees will display. In certain soil types, the leaves may be red. If you transplant the same tree to a different type of soil, the next year its leaves may be purple. In drought conditions, leaves may drop from the trees without much color change at all. If the temperatures turn too cold, leaves can die before they change colors. However, in some years fall color is abundant even though weather conditions are not ideal.

Tree species that produce deep red, bronze and orange shades on autumn leaves include the red oak, sugar maple, flowering dogwood, persimmon, sweet gum, sumac and tupelo gum. Trees with bright orange and yellow tints on leaves in the fall include sugar maple, cottonwood, wild black cherry, ash, birch, hickory, sassafras and tulip tree. Deep purple and red shades are the fall colors of tree-climbing vines including Virginia creeper and poison ivy.

Identification Characteristics

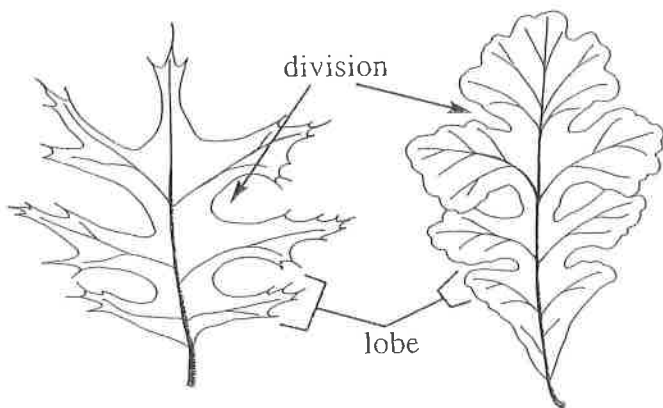
NOTE: No leaf, fruit or seed in this booklet is drawn in its actual size nor shown in proportion to actual size.



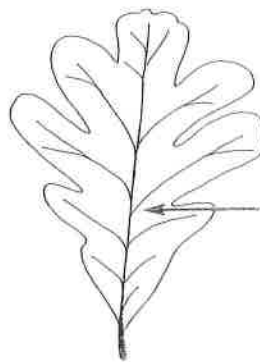
even base



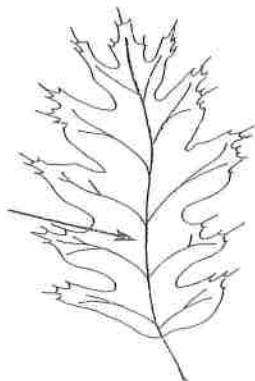
asymmetrical base



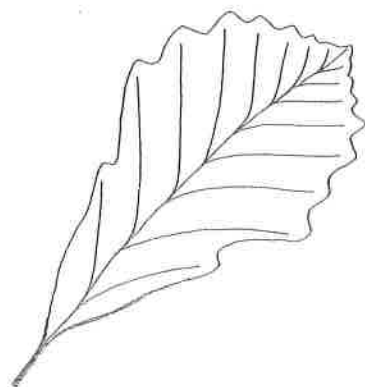
rounded lobes



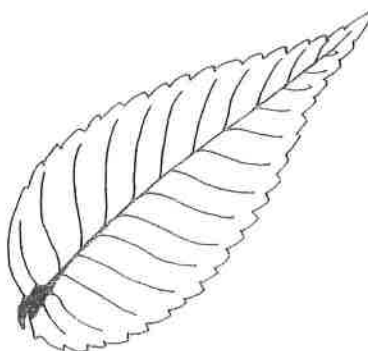
midline



bristle-tipped
or pointed lobes



wavy edge



toothed edge



smooth edge

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Using This Activity Book - For the Educator

This activity book is designed to supplement the information provided in the *Illinois Trees* poster from the Illinois Department of Natural Resources (IDNR). When using this book, students will become familiar with identification characteristics of leaves (page 2) and will be able to identify tree species by using a dichotomous key to these leaves (page 5). Students will also become familiar with traits of the tree species and key vocabulary words. Although it is not necessary to have a copy of the *Illinois Trees* poster to complete this activity book, if you are a teacher and would like a copy for your classroom, you may order one from the IDNR at <http://dnr.state.il.us>.

Using This Activity Book - For the Student

This activity book is designed to help you learn more about the tree species included on the *Illinois Trees* poster from the Illinois Department of Natural Resources. If you study the tree identification characteristics (page 2) and follow the directions (pages 4 and 5), you'll be able to identify the 15 tree species just by looking at their leaves. There are more activities for you to complete as you progress through the book, too. Once you identify all of the species, can you find leaves from trees in your area to match them?

Forest Facts

- *The white oak, Quercus alba, is the State Tree of Illinois. Found throughout the state, the white oak is an excellent shade tree, and its wood is used for lumber, barrels, flooring, furniture and construction.*
- *Known for its strength, white oak wood was used in the construction of the U.S.S. Constitution. During a naval battle in the War of 1812, soldiers reported that cannon balls bounced off the hull of this ship, leading to its nickname of "Old Ironsides."*
- *More than 250 species of trees (native and introduced) have been found growing in Illinois.*
- *More than 75 percent of the wildlife habitat in Illinois is in the forests. More than 420 vertebrate species use forest habitats. About 120 bird species nest in Illinois forests.*
- *Ninety-eight percent of Illinois forests are composed of hardwood species, and 43 percent of the hardwood species are white and red oak.*
- *In 1820, forests covered 13.8 million acres of Illinois (38 percent of the state). The United States Forest Service 1998 inventory estimated that 4.33 million acres of forests (12 percent of the state) exist in the state.*