**TREE IDENTIFICATION TERMS**

### BRANCHING

**ALTERNATE BRANCHING:** A branching pattern where side branches, leaves, and leaf scars do not grow directly across from each other.

**OPPOSITE BRANCHING:** A branching pattern where side branches, leaves, and leaf scars grow directly across the stem from each other.

### CONIFERS

**BUNDLES:** Groups of needles held together at the base by a small papery wrap called a fascicle.

**CONIFEROUS:** A tree that bears cones and has needles. Also called evergreens.

### DECIDUOUS

**BROAD-LEAFED:** A tree that sheds all of its leaves annually. They have leaves as opposed to needles. These trees are also called deciduous.

**COMPOUND LEAF:** A type of leaf that has one stem and many smaller leaflets. A leaf begins where the leaf petiole attaches to the twig.

**DECIDUOUS:** A tree that sheds all of its leaves annually. These trees are also called broad-leaved.

**LEAFLETS:** Smaller parts of leaves that often resemble leaves themselves. They join together along the petiole. The leaf petiole attaches to the twig.

**PETIOLE:** The stalk that supports a leaf and attaches the leaf to the twig. They can be round, flat, or square.

**SIMPLE LEAF:** A type of leaf that has one blade attached to a twig by a petiole.

**SCALY:** Conifer needles that are flat and overlapping, like fish scales.

### LEAF MARGINS

**ENTIRE:** A type of leaf edge that is smooth and has no wavy or rough edges.

**LOBED:** A type of leaf edge that has large rounded parts.

**MARGIN:** The outer edge of the leaf.

**TOOTHED:** A type of leaf edge that has small points or bumps along it (teeth). Single-toothed means that all the teeth are about the same size. Double-toothed means that on each tooth there is a smaller tooth.

**SINUSES:** The spaces in between lobes on a leaf.
TREE IDENTIFICATION KEY

BEGIN HERE:
Tree has needles use..........................................................use CONIFEROUS TREE KEY
Tree has broad leaves............................................................use DECIDUOUS TREE KEY

CONIFEROUS TREE KEY

1. Needles in bundles or groups (2)
2. Needles single or flattened and scaly (3)
   2. Needles in clusters of more than 5 needles....................Tamarack* (Larix laricina)
   2. Needles 2 to 5 per bundle: Pine species (see a-c below)
      a. Five needles per bundle ..............................................White Pine (Pinus strobus)
      b. Needles in pairs, 3 to 4 inches long.........................Red Pine (Pinus resinosa)
      c. Needles in pairs, under 2 inches long,
         bark dark gray ...................................................Jack Pine (Pinus banksiana)

3. Needles scaly and flattened (4)
4. Has cones, scales flat, branches fan-like ..........................Northern White Cedar
   (Thuja occidentalis)
   4. Has berries, may have scaly and prickly needles on same
      tree, scales rounded.................................................Eastern Red Cedar (Juniperus virginiana)

5. Needles flat (6)
6. Needles 1/2 inch long with short petiole ........................Eastern Hemlock (Tsuga canadensis)

*Note: A tamarack is a deciduous conifer.
TREE IDENTIFICATION KEY
DECIDUOUS TREE KEY

1. Opposite branching (2)
2. Alternate branching (4)
3. Compound leaves (3)
4. Simple leaves: Maple species (see a-c below)
   a. Leaf margins smooth, 5 lobes ......................Sugar Maple (Acer saccharum)
   b. Leaf margins double-toothed, 3 to 5 lobes ..........Red Maple (Acer rubrum)
   c. Leaf margins single-toothed, 3 to 5 lobes, lobes separated by deep, angular openings ......................Silver Maple (Acer saccharinum)
5. 7 or fewer (usually 5) leaflets ............................................Shagbark Hickory (Carya ovata)
6. Leaflets rounded ....................................................Black Locust (Robinia pseudonacacia)
7. Leaf 6 to 8 inches long ...................................................Mountain Ash (Sorbus americana)
8. Leaves not lobed (9)
9. Leaves lobed: Oak species (see a-f below)
   a. Rounded lobes, 5 to 9 deep even lobes and sinuses, leaves hairless ..............................................White Oak (Quercus alba)
   b. Rounded lobes, pair of deep sinuses near middle of leaf, hairy underside of leaves ..........................Bur Oak (Quercus macrocarpa)
   c. Rounded lobes, leaf narrow at base and broad near middle, hairy underside of leaves .....................Swamp White Oak (Quercus bicolor)
   d. Pointed lobes, sinuses extend halfway to mid-vein, leaves hairless, dull green .................................Red Oak (Quercus rubra)
   e. Pointed lobes, deep sinuses extend 3/4 of the way to mid-vein, leaves hairless, bright green and shiny ....Northern Pin Oak (Quercus ellipsoidalis)
   f. Pointed lobes, deep sinuses, young leaves hairy underneath, dark green and shiny, leathery ...............Black Oak (Quercus velutina)
TREE IDENTIFICATION KEY
DECIDUOUS TREE KEY

9. Bark not papery (10)
9. Bark papery: Birch species (see a-c below)

a. Leaves single-toothed, white peeling bark .......... *White Birch (Betula papyrifera)*
b. Leaves double-toothed, dull green leaves, yellow or bronzed bark ................................................................. *Yellow Birch (Betula alleghaniensis)*
c. Leaves double-toothed, shiny green leaves, reddish-brown to silvery-gray bark .................................................... *River Birch (Betula nigra)*

10. Leaf petioles flat (11)
10. Leaf petiole round (12)
11. Leaf triangular-shaped with coarse teeth .......... *Eastern Cottonwood (Populus deltoides)*
11. Leaf oval: Aspen species (see a-b below)

a. Leaves have small, fine teeth less than 1/16 inch ......................................................... *Trembling Aspen (Populus tremuloides)*
b. Leaves have large teeth ................. *Big-toothed Aspen (Populus grandidentata)*

12. Leaves nearly as wide as long (13)
12. Leaves longer than wide (14)
13. Leaves finely toothed ................................................................. *Balsam Poplar (Populus balsamifera)*
13. Leaves coarsely toothed ................................................................. *Basswood (Tilia americana)*
14. Leaf less than 3 times as long as wide (15)
14. Leaf at least 3 times as long as wide .................. *Willow species (Common species include Weeping Willow and Black Willow)*
15. Leaf veins thin and branch often (16)
15. Leaf veins thick and run from center to edge of leaf without branching (17)
16. Fine blunt teeth, leaves 2 to 6 inches long, bark dark ................................................................. *Black Cherry (Prunus serotina)*
16. Sharp pointed teeth, leaves 2 to 4 inches long and hairy ................................................................. *Hackberry (Celtis occidentalis)*
17. Leaf shiny and leathery (thick), coarse sharp teeth .......... *Beech (Fagus grandifolia)*
17. Leaf dull and rough (18)
18. Most leaf bases even, seed in elongated clusters .......... *Ironwood (Ostrya virginiana)*
18. Leaf base uneven, seeds flat and papery .......... *Elm species (Common species include American Elm, Rock Elm, and Slippery Elm)*
LEAF Tree ID Card Answer Key

A = White Pine
B = Tamarack
C = Red Oak
D = White Birch
E = Black Cherry
F = Basswood
G = Shagbark Hickory
H = Box Elder
I = Black Spruce
J = Jack Pine
K = Ironwood
L = Black Oak
M = Red Maple
N = Bur Oak
O = Black Walnut
P = Red Pine
Q = Silver Maple
R = Northern Pin Oak
S = Elm species
T = River Birch
U = Hackberry
V = Northern White Cedar
W = Willow species
X = Eastern Red Cedar
Y = Eastern Hemlock
Z = Sugar Maple
AA = Black Ash
BB = White Oak
CC = White Ash
DD = White Spruce
EE = Beech
FF = Eastern Cottonwood
GG = Green Ash
HH = Balsam Fir
II = Yellow Birch
JJ = Swamp White Oak
KK = Black Locust
LL = Trembling Aspen
MM = Big-toothed Aspen
NN = Mountain Ash
OO = Balsam Poplar
TREE IDENTIFICATION CARDS

A = WHITE PINE

B = TAMARACK

A

B
TREE IDENTIFICATION CARDS

C = RED OAK  •  D = WHITE BIRCH
TREEd IDENTitIcAtIoN CARdS  I = BLACK SPRUCE  •  J = JACK PINE
TREES IDENTIFICATION CARDS

K = IRONWOOD • L = BLACK OAK

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TREE IDENTIFICATION CARDS

M = RED MAPLE • N = BUR OAK
TREE IDENTIFICATION CARDS

O = BLACK WALNUT • P = RED PINE

O

P
TREE IDENTIFICATION CARDS

Q = SILVER MAPLE • R = NORTHERN PIN OAK

Q

R
TREE IDENTIFICATION CARDS

S = ELM SPECIES • T = RIVER BIRCH
TREE IDENTIFICATION CARDS

W = WILLOW SPECIES
X = EASTERN RED CEDAR

- Willow species
- Eastern red cedar

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TREE IDENTIFICATION CARDS

Y = EASTERN HEMLOCK

Z = SUGAR MAPLE

Photo: Paul White, Iowa State University, www.forestryimages.org
TREE IDENTIFICATION CARDS

AA = BLACK ASH • BB = WHITE OAK

Photo: Paul Wray, Iowa State University, www.forestryimages.org
TREE IDENTIFICATION CARDS

EE = BEECH • FF = EASTERN COTTONWOOD
TREE IDENTIFICATION CARDS

GG = GREEN ASH • HH = BALSAM FIR

Photo: Bill Cook, Michigan State University, www.forestryimages.org

Photo: Paul Wray, Iowa State University, www.forestryimages.org

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TREE IDENTIFICATION CARDS

II = YELLOW BIRCH • JJ = SWAMP WHITE OAK

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Photo: Paul Wray, Iowa State University, www.forestryimages.org
TREE IDENTIFICATION CARDS

KK = BLACK LOCUST • LL = TREMBLING ASPEN

Leaf, Seed, Flower, Bark Photos: Paul Wray, Iowa State University, www.forestryimages.org...

Branching Photo: Gil Wojciech, Polish Forest Research Institute, www.forestryimages.org...
TREE IDENTIFICATION CARDS

OO = BALSAM POPLAR

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