I. **Evergreen**, leaves needlelike or small and scale-like, mostly cone-bearers

1. leaves in form of **needles**

2. **needles found in bundles** or groups along stem

3. long, clustered needles in **bundles of five**; dark bark with Pinus strobus

deep furrows; long, thin cones; Branches cluster like “whorls” (white pine)

3. **bundles of two needles**

4. **orange colored bark scales** & sheds; egg-shaped cones; Pinus sylvestris

short, stout needles, slightly flattened; (less than 3”) (scotch pine)

4. reddish bark in the form of plates; very **long, thin** Pinus resinosa

**needles** (3” to 8”); small cones (red pine)

4. **scrubby** and small tree with very **short needles** Pinus banksiana

(less than 1 ½”); cones bulge at the sides (jack pine)

3. clustered, **short needles on short stems**, longer & single on long Larix laricina

stems; dark scaly bark; small spherical cones; **thin, open branches** (tamarack)

2. **needles borne** **singly**; needles all short (less than 1”)

5. **flat needles** with two rows of **stomates** underneath

6. **steeple shaped** tree; needles with circular base (two Abies balsamea

rows) nearly at right angles; **smooth bark** with resin (fir)

6. round tree top; two rows of flattened needles on each stem Tsuga canadensis

With **two whitish rows underneath** (stoma); short cones (hemlock)

5. **flat needles** with green on both sides (lighter underneath); Taxus canadensis

shrub, berry-like, red fruit; stalked needles (yew)

5. needles arranged in **compact spirals** around the twig; Picea spp.

Needles short, thick and sharp; cones hang downward (spruce)

1. leaves in the form of **scales**

7. leaves “opposite” in **four rows** around hugging twigs (cedars)

7. **sharp**, hollowed, 3-sided needles (scale-like) in **whorls of three** (juniper)

I. **Deciduous** (leaves fall off at the end of the growing season)

8. twigs and branches “**armed**”

9. **thorns 1 to 5”**; **11-15 compound leaves** divided into leaflets; fruit Gleditsia or Robinia spp.

in the form of pods; dark, somewhat scaly bark; paired thorns (locust)

9. brownish bark with thin, scaly plates as the tree matures; 1 to 5” Cratagaegus spp.

unpaired thorns; fruit resembles miniature apples; dense shrubs (crabapple, hawthorn)

coarsely toothed leaves with smooth base; “haws” remain year round

9. **spur-like twigs** with thorn-like tips; apple fruit; woolly, blunt buds Pyrus spp.

brown, scaly bark; 5 petaled flowers; similar to a pear tree (apple)

8. twigs and branches “**unarmed**”

10. leaf scars and twigs are “**opposite**” – “**MAD Horse**”

11. opposite, **feather-compound leaves**, toothed or untoothed Fraxinus spp.

(13 to 15 leaflets); tall trees with diamond shaped ridges (ash)

on the bark; few branches; thick twigs

11. **simple** (single), opposite, fan-lobed leaves; small double- Acer spp.

winged fruit (“**helicopters**”) (maple)

12. small, slender tree with **green bark** vertically marked Acer pensylvanicum

with **white stripes;** 3 lobed leaves (striped maple)

12. reddish twigs and blunt buds; smooth gray bark when young, Acer rubrum

dark & rough when old (“**spiderwebbing**”); **toothed leaves** (red maple) 12. **sharp-pointed, slender, brown buds**; dark brown trunk Acer saccharum

with grooves and ridges; uniform bark; **untoothed leaves** (sugar maple)

12. **3 to 5 leaflets** that look like maple leaves but are Acer negundo

compound; bark resembles an ash tree (box elder)

11. leaves have **distinct veins**; twigs, branchlets & pith have distinct Cornus spp.

coloring; shrubs or small trees; umbrella-shaped fruit or flowers (dogwood)

11. 5-7 **palmate** leaflets; nut like seeds (conkers); [horsechestnut] Aesculus hippocastanum*I. Deciduous (leaves fall off at the end of the growing season)*

*8. twigs and branches “unarmed”*

*10. leaf scars and twigs are “opposite”*

10. leaf scars and twigs are “**alternate**”

13. bark with **conspicuous** **lenticels** (at least on the stems)

14. **rough, cracked or pealing bark** on old trees

15. smooth bark on young trees becoming cracked into Prunus spp.

**“potato chip” plates**; thin twigs with **bitter almond odor**; (cherry)

slender, brown buds; long, narrow, finely serrated leaves

15. **paper-like bark** **horizontally pealing** or striped; blunt twigs Betula

with **wintergreen smell**; catkins; double toothed leaves (birch)

15. brown-orange, young, **“shreddy” bark**, Ostrya virginiana

**vertically pealing** with age; catkins; egg-shaped, (hornbeam)

double toothed leaves; twigs have **no odor**

14. **smooth, muscular-appearing bark**; dark gray bark with Carpinus caroliniana

“sinewy” or rippled look; egg-shaped, double toothed (blue beech, ironwood, leaves; catkins “musclewood”)

13. bark with **no conspicuous lenticels**

16. **simple leaves**; **rough or furrowed bark** on the tree

17. thick, sharply angled twigs; **pale greenish-white** & Populus spp.

smooth **bark** when young becoming dark-furrowed (aspen or popple)

when older; catkins; **roundish, fluttery leaves**

17. **acorns**; tall trees; clustered end buds Quercus spp.

18. whitish, furrowed, scaly bark; 7-9 **evenly lobed leaves**; Quercus alba

red-brown, small, blunt buds; bowl-shaped acorn cup (white oak)

18. dark, furrowed bark with broad **shiny plates**; Quercus rubra

moderately lobed / **pointed leaves**; flatter acorn cup (red oak)

18. dark, **deeply ridged bark** all the way up the tree; thin, Quercus prinus

sharp buds; 7 to **16 pairs of rounded lobes** on leaves (chestnut oak)

17. grayish **bark with cross-thatched ridges**; double toothed, Ulmus spp.

feather-veined **leaves** **with uneven**, **heart-shaped bases** (elm)

17. dark, shallowly grooved bark with smooth gray on upper Tilia Americana

parts; **heart-shaped, fine-toothed leaves** with uneven (basswood)

bases; red to green buds; **orange under bark**

17. red-brown, furrowed bark; **leaves untoothed in a 3-lobe** Sassafras albidum

pattern or thumb & mitten; green, branched twigs

16. **simple leaves**; **smooth, light gray bark**; brown, cigar-shaped Fagus grandifolia

scaly buds; retains leaves; triangular nuts; “love notes tree” (beech)

16. **compound leaves**

19. trees **found near water** (prevents erosion); single scale Salix spp.

completely covering the bud; yellow-ridged bark; (willow)

**long, narrow leaves**

19. stout, tough twigs; **feather-compound leaves** with toothed Carya spp.

long-pointed leaflets; catkins; nuts break into 4 parts

20. tall tree; 5 to 7 leaflets; **light bark with long, loose** Carya ovata

**strips**; red-brown, shiny twigs (shagbark hickory)

20. tall; 5 leaflets; slender, red-brown twigs; **dark**, Carya glabra

**tightly ridged bark** (pignut hickory) 20. 5 to 11 hairy **thin, finely toothed leaflets** 6-9 “ long; Carya cordiformis

bright yellow-powdery buds; **light, finely ridged bark**; (bitternut hickory)

slender twigs; cylindrical, smooth nuts

19. **deeply ridged bark**; **over 11 leaflets** 1 to 2 feet long; Juglans nigra

**Pinnate** toothed leaves tapering at ends; **large nutshell** (Black Walnut)