



Identification of Trees



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What is a Tree?

Tree: Woody plants, excluding vines, usually ≥ 20 feet in height or ≥ 3 inches DBH (regardless of height).



What is a Tree?

Two major classifications: Angiosperms & Gymnosperms



Deciduous



Semi-deciduous

Identification of a Tree

Must learn to use four things:

1. Sight;

2. Smell;

3. Taste;

4. Decision tree (plant key)

Beech



Black Cherry



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River Birch



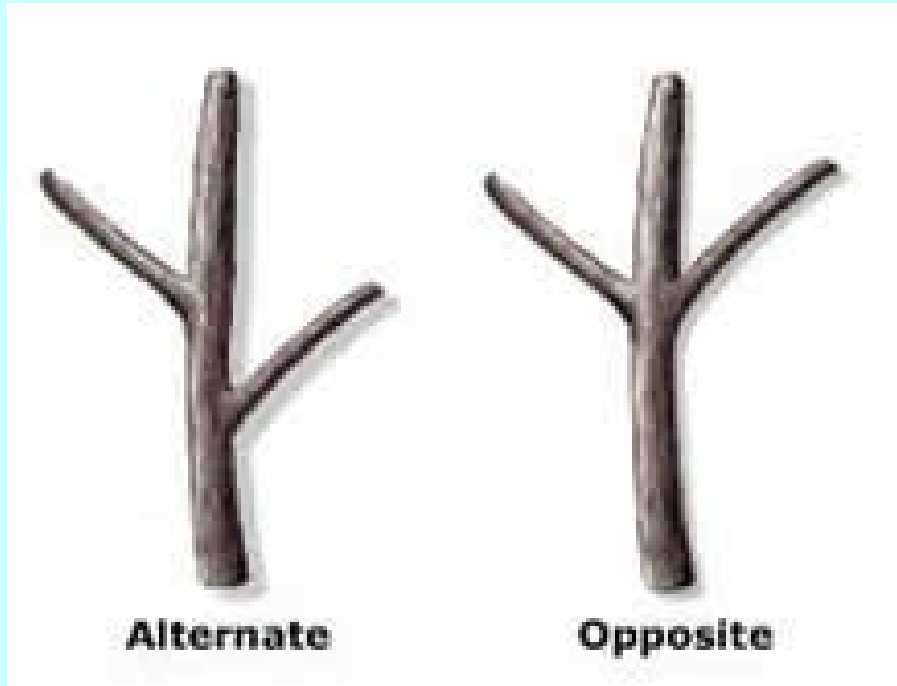
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Basic Leaf arrangement

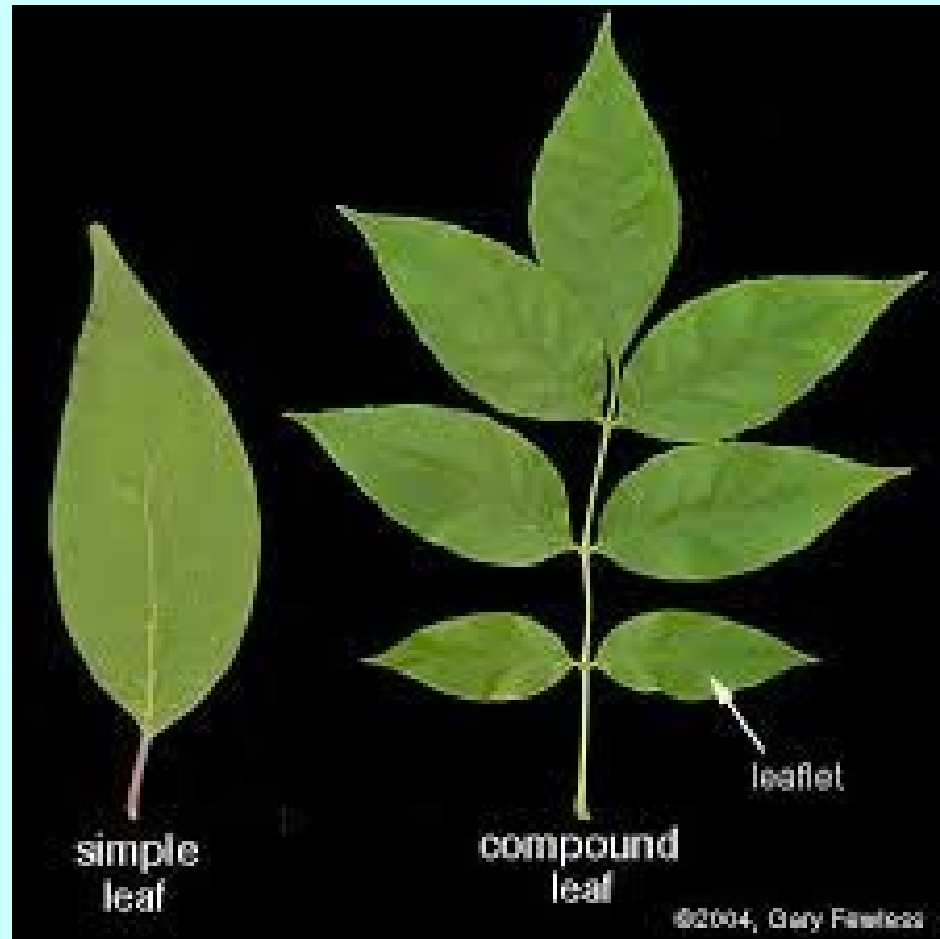


Helpful Facts: only 4 native families of trees have opposite branches/leaf scars (ash, buckeye, dogwoods, maple)!

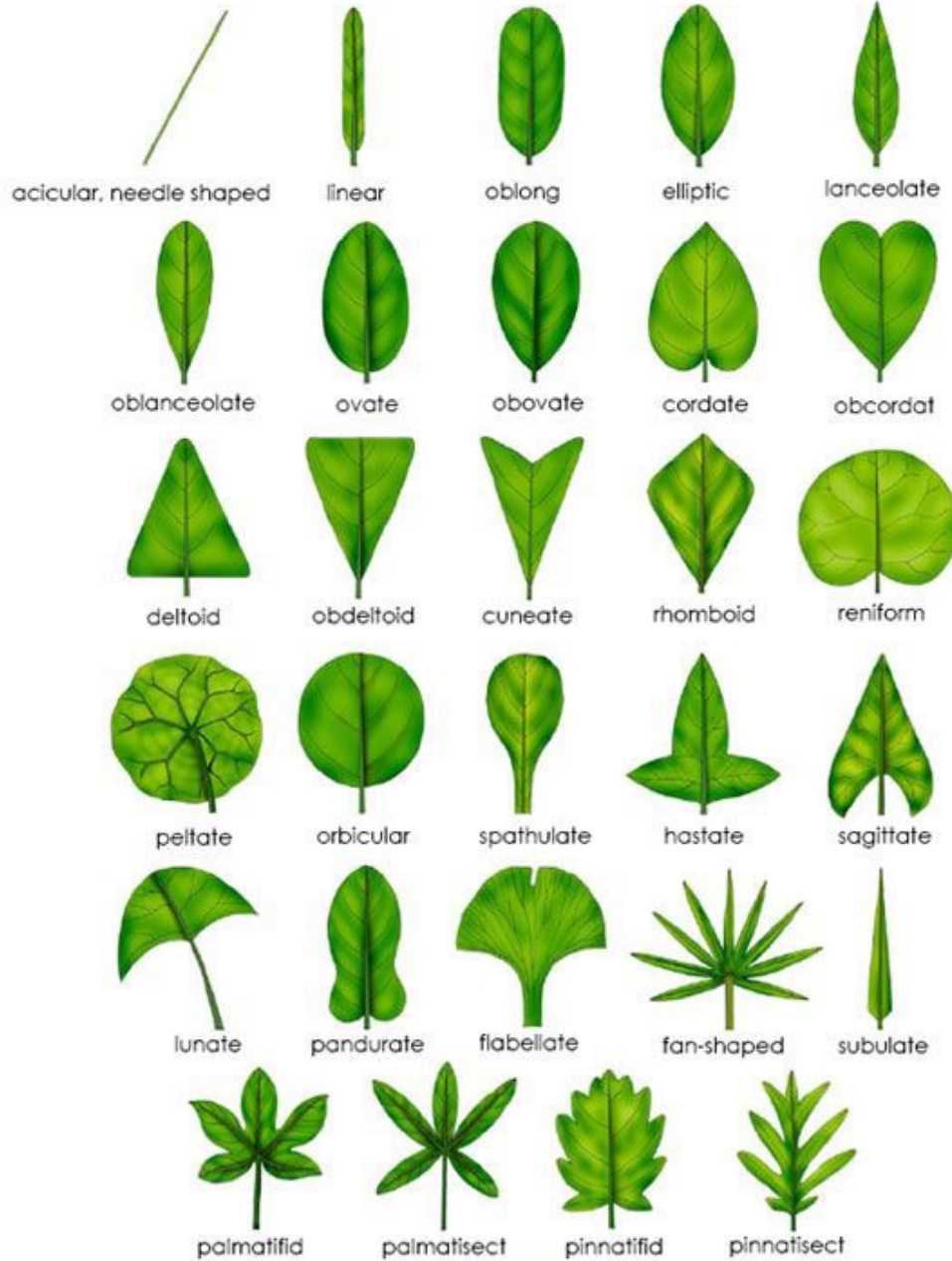
Two Main Types of Leaves

Simple leaf: blade not divided to midrib

Compound blade divided to midrib



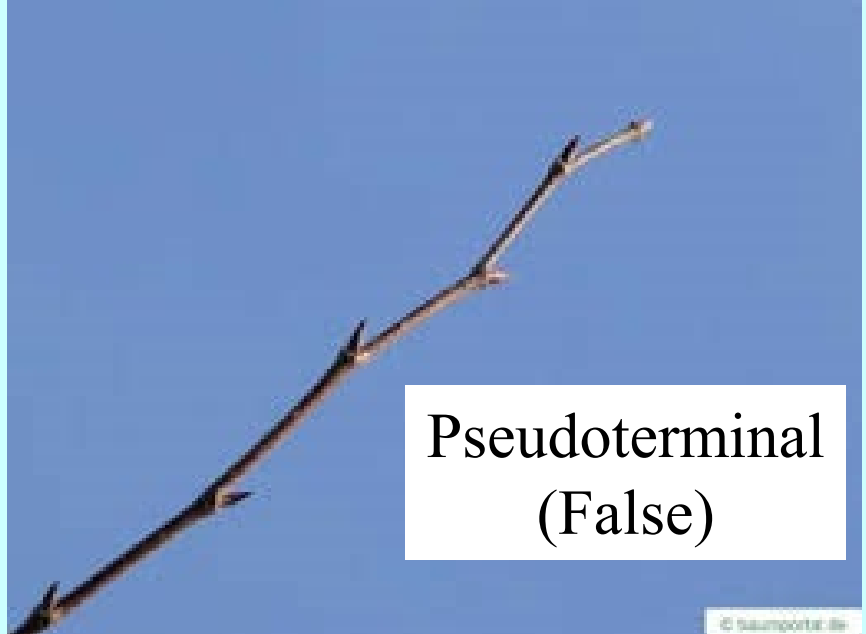
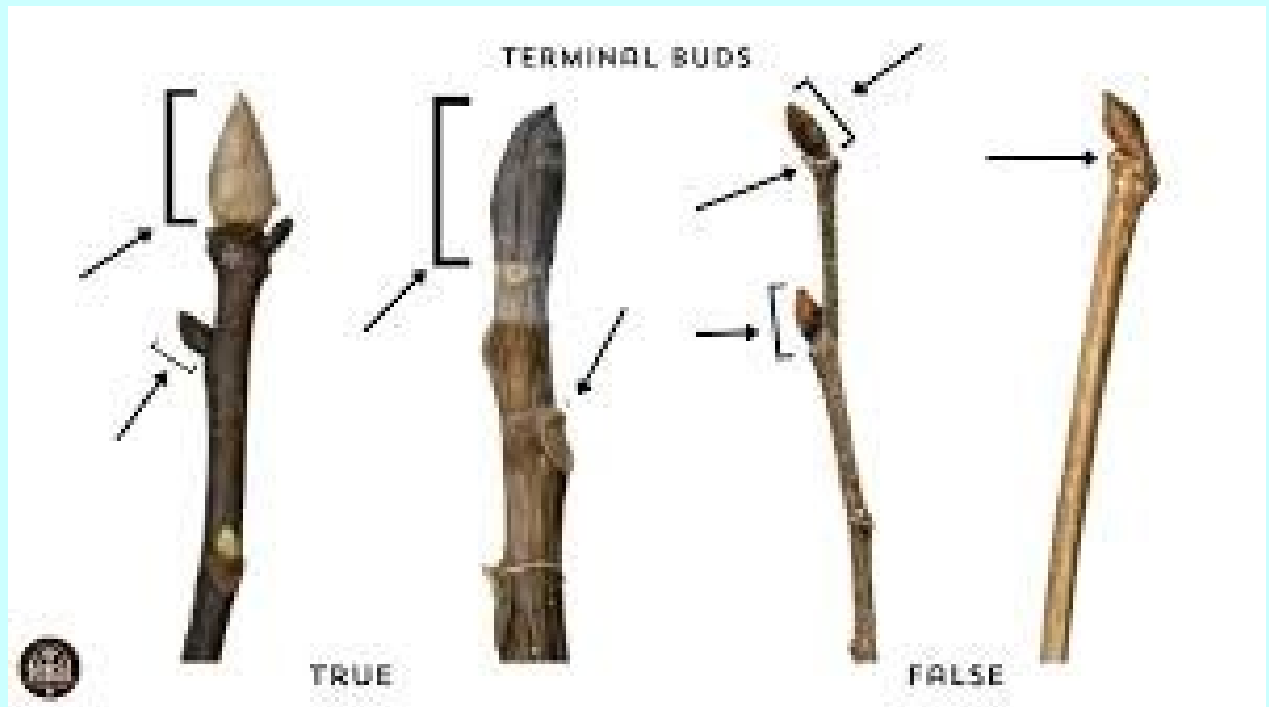
Overall Leaf Shapes



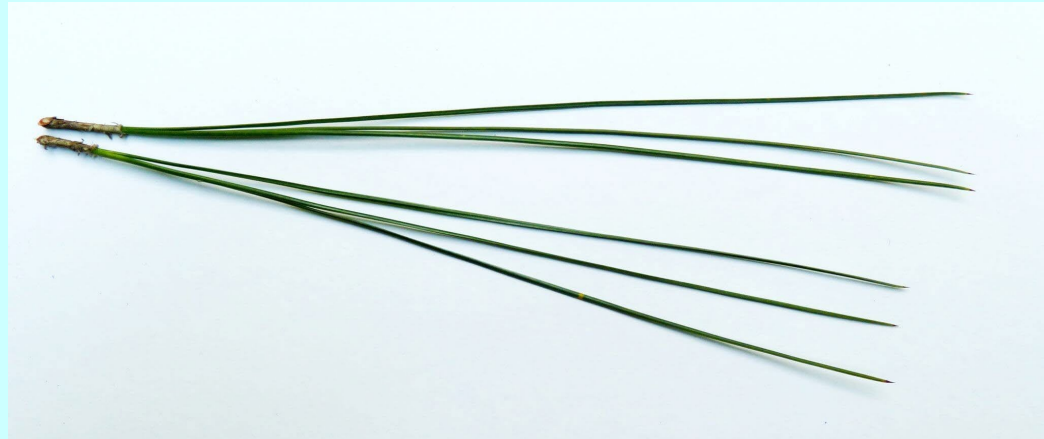
ပုံစံအမျိုးမျိုး (leaf shape)

Terminal buds:

Multiple



Needles



Specific Family Characteristics

Pines have needles in clusters (aka: bundles, fascicles).

Fact: White pine is the only pine in our area with five needles per fascicle



Specific Family Characteristics (Fagaceae)

Oaks: Acorns and 5 terminal buds! They are divided into three major tribes: white oaks (leucobalanus), red oaks (erythrobalanus), and live oaks.

Live oaks are semi-deciduous and do not have lobes



Specific Family Characteristics (Fagaceae)

White oaks do NOT have marginal veins that extend beyond the leaf margin while red oaks always have veins extending beyond the leaf margin.



Specific Family Characteristics (Ulmaceae, Tiliaceae)

Elms have “oblique” leaf base and “zig-zag” twigs.

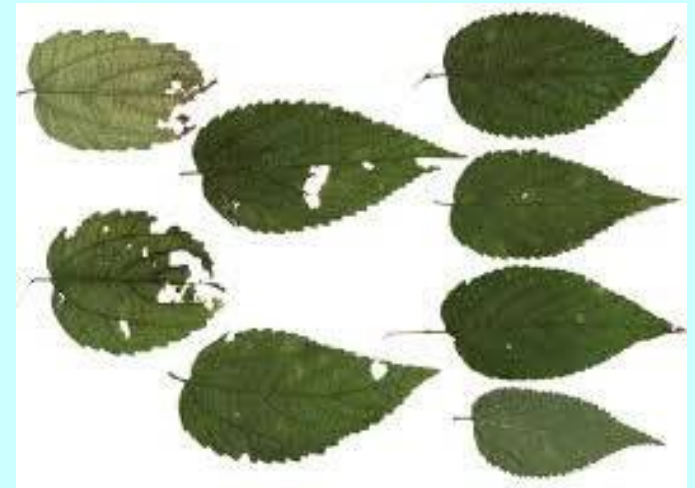
Tilia also have “oblique” leaf base, but heart shaped base.



Specific Family Characteristics (Ulmaceae)

Elm family (elm and hackberry)

Hackberry has “warty” bark and “oblique” leaf base.



Specific Family Characteristics (How to cheat!)

Walnut and Hickory (Juglandaceae)

Both have pinnately compound alternate leaves

Walnut leaflets are the smaller toward the tip while hickory (except pecan) are larger.



Specific Family Characteristics

As mentioned before, there are only four trees in North America that have opposite leaves:

Maple, Buckeye, Ash, and Dogwood (M[Y] BAD).

Both ash and buckeye are compound. Ash is pinnately compound while buckeye is palmately compound.

Both maple (with exception of box elder which is pinnately compound) and dogwood are simple. Maples, however, are lobed while dogwood is not.

Specific Family Characteristics

Cherries have “bitter almond” smell.

Some birch, but not our river birch, have methylsalicylate odor.

Tulip poplar, wax myrtle, spice bush have distinctive odors.

Swamp chestnut (*Q. michauxii*)



Chestnut (*Q. montana*)



Southern red oak (*Q. falcata*)



Black oak (*Q. velutina*)



Northern red oak (*Q. rubra*)



Water oak (*Q. nigra*)



Pignut hickory (*Carya glabra*)



Sand hickory (*Carya pallida*)



Red maple (*Acer rubra*)



Sweetgum (*Liquidambar styraciflua*)



Remember to use fingers, eyes, nose, and, when you know it's safe, taste.

Remember your short cuts:

1. Four tree families with opposite leaves (M[Y] BAD).
2. Three oak groups: white, red, and live. Red oak group with bristle tip, live oak group lacks lobes or teeth. FIVE terminal buds!
3. Oblique base on elms, hackberries, and linden trees.
4. Stipule scar surrounding the twig (magnolia family, sycamore).



OK, let's go look at Trees!