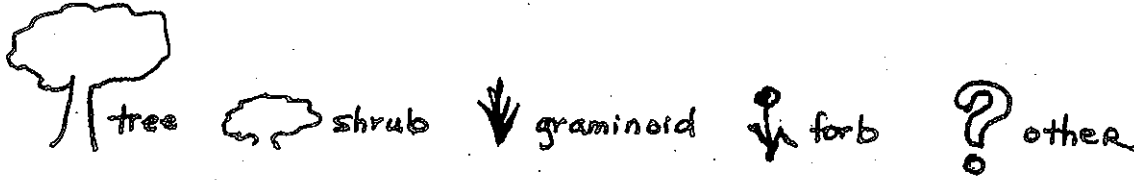


Guide to Observing Plants

When you are trying to identify a plant, there are several observations you can make. Follow this guide and answer the questions to help you identify your plant.



1. Is your plant a tree, a shrub, a forb, a graminoid, or other?



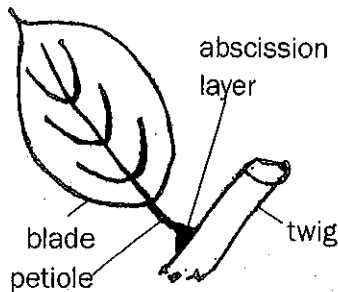
If it has a woody base, it is a tree or a shrub.

If it has a woody base and, when mature, it is over 10 feet (3 m) tall, it is a tree; otherwise it is a shrub.

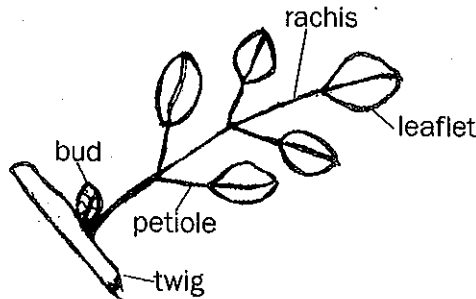
If it does not have a woody base but it looks like a grass, call it a graminoid. If it doesn't look like a grass but it is an herb, call it a forb.

If it doesn't fit any of these categories, call it other.

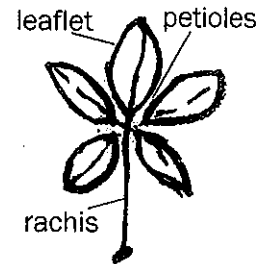
2. Now look closely at the leaves. Identify the basic leaf parts: blade, leaflets (if compound), petiole, etc. Determine if your leaf is simple or compound. If it is compound, is it pinnately compound or palmately compound?



simple leaf



pinnately compound leaf

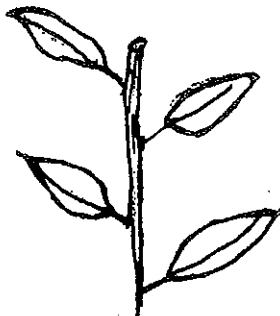


palmately compound leaf

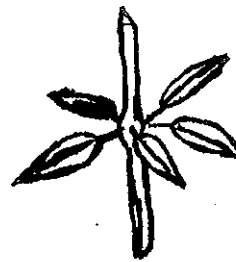
3. How are the leaves arranged on your plant?



opposite



alternate



whorled

4. If your plant is a forb, where do the leaves grow?



rosette



basal



along the stem

5. What shape is your leaf or leaflets?



needle



thread



linear



ovate



lanceolate



obovate



oblanceolate



elliptic



deltoid



spatulate

6. What kind of margin (or edge) does your leaf have?



entire



wavy



sinuate



serrate



double
serrate



dentate
(toothed)



lobed
pinnate



palmate

7. What kind of pattern do the veins in your leaf make?



parallel



net



pinnate



palmate

Common Botanical Terms

Botanists use many special words to describe plants in very precise ways. Many of these words are very specific to distinct features, so they are not used in normal conversation. They are true English words, though (and legal for use in Scrabble®!).

Here is a list of some of the more common botanical terms that are used in this Guide to Observing Plants. Most of these terms are from *Plant Identification Terminology: An Illustrated Glossary*, by James G. Harris and Melinda Woolf Harris, published in 1994 and 2001 by Spring Lake Publishing of Payson, Utah.

tree: a large, woody plant that at maturity is over 10 feet (3 meters) tall

shrub: a woody plant, usually with several stems, that is generally under 10 feet (3 meters) tall

herb: a non-woody plant; stems die back to the ground at the end of the growing season; herbs include graminoids and forbs

grass: an herb that is in a family of plants that has jointed, tubular stems, leaf parts that include a sheath, ligule, and blade, and modified flowers that produce grains

graminoid: an herbaceous plant that either is a grass or looks like a grass

forb: a non-grasslike, herbaceous plant

simple: undivided, as a leaf blade not separated into leaflets

compound: with two or more parts in one organ

opposite: having two parts across from each other at each node, as in leaves on a stem

alternate: having only one part at each node, as in leaves on a stem

blade: the broad part of a leaf or petal

petiole: a leaf stalk

rachis: the main axis of a structure, such as a compound leaf or an inflorescence (cluster of flowers)

abscission layer: a thin wall of cells at the base of the leaf petiole that breaks down and causes the leaf to fall

node: the position on the stem where leaves or branches originate

internode: the portion of the stem between two nodes

rosette: a dense, radiating cluster of leaves

basal: positioned at or arising from the base, as leaves arising from the base of the stem

clasping: wholly or partly surrounding the stem

pinnate: resembling a feather, as in a compound leaf with leaflets arranged on opposite sides of an elongated axis





palmate: divided from a common point, like fingers on a hand.

lanceolate: lance-shaped; much longer than wide, with the widest point below the middle

oblanceolate: inversely lanceolate; much longer than wide, with the widest point above the middle

deltoid: with the shape of the Greek letter delta; shaped like an equilateral triangle

needle: a slender, needle-shaped leaf, as in pine trees

thread: a thin leaf, like a thread without fleshy tissue on each side of the blade

linear: resembling a line; long and narrow with more or less parallel sides

ovate: egg-shaped in outline and attached at the broad end

obovate: egg-shaped in outline and attached at the narrow end

elliptic: in the shape of an ellipse, or narrow oval; broadest in the middle and narrower at two equal ends

spatulate: like a spatula in shape, with a rounded blade above gradually tapering to the base

sinate: with a strongly wavy margin

serrate: saw-like, toothed along the edges, the sharp teeth pointing forward

dentate: toothed along the margin or edge, the teeth directed outward rather than forward

lobed: bearing rounded divisions or segments which are cut less than half-way to the base or mid-vein

net-veined: in the form of a network; reticulate

flower: the reproductive part of a plant.

petal: generally the showy, colored part of a flower, yet determined by position in relation to other plant parts (i.e., above the sepal)

sepal: the outer parts of a flower, typically a green bract that is below the colored petal

stamen: the male reproductive organ in a flower, consisting of a stem called a filament and the head called the anther which contains the pollen

pistil: the female reproductive organ in a flower, consisting of the ovary where the seed develops, the stigma where the pollen enters, and the style that transports the pollen from the stigma to the ovary

annual: a plant that grows from a seed, flowers, sets seed, and dies in the same year

biennial: a plant that lives two years, usually forming a basal rosette of leaves the first year; the second year it flowers and fruits, and then dies

perennial: a plant that lives three or more years