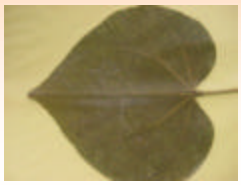
Plant Leaves

Venations, Margins, and Arrangements

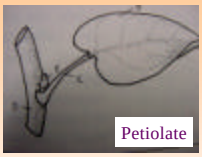
Basic Leaf Structures:

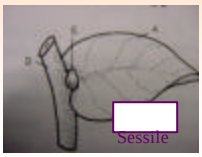
- Blade - what we all call a leaf (lamina)
- Petiole - attaches blade to stem
- Veins
- Midrib - main vein



Petiolate or Sessile?

- Petiolates - leaves attach to the stem with a petiole.
- Sessile - leaves lack a petiole and the blade attaches directly to the stem.





Simple or Compound?

- Simple - a single blade (with or without a petiole) attached to the stem

- Compound - the blade of the leaf is divided into multiple smaller blades called leaflets (each leaflet does not attach to the stem)

Venation

- Parallel
- Pinnate
- Palmate

Parallel Venation

- there are several veins that run parallel to each other
- the veins run from the base of the leaf to the leaf tip.

Pinnate Venation

- Single centrally positioned midrib
- numerous smaller veins branch out from the midrib
- veins produce a feather-like appearance

Palmate Venation

- Multiple main veins
- all the main veins arise from a common point at base of leaf and radiate outward
- think of palm of your hand--all fingers connect at the palm and radiate outward

Margins

- Smooth / Entire
- Serrate
- Lobed
- Palmatifid

Smooth / Entire

Serrate

Lobed

Palmatifid

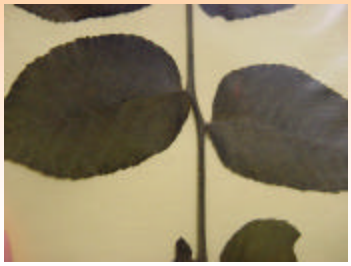
Arrangement

- Relates to how the leaves are located around the stem of the plant

- Alternate
- Opposite
- Whorled

Alternate

- Leaves alternate (one up and one down)



Opposite

- Leaves are positioned directly opposite one another on the stem of the plant.

Whorled

- Three or more leaves are located in a circle around the stem of the plant.

What venation does this plant have?

What can you tell about this plant?
Hint: those are leaves--not leaflets