Leaf Characteristics

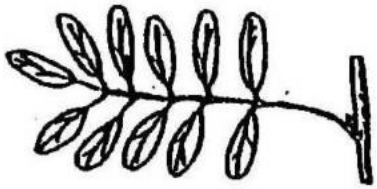
Characteristics of Broad Leaves

- Simple leaf – leaf having only a single blade

- Compound leaf – leaf having more than a single leaf blade (leaflets)

    - Palmately compound leaf – A compound leaf with leaflets radiating from a common point at the end of the stem or petiole, like the fingers of a hand

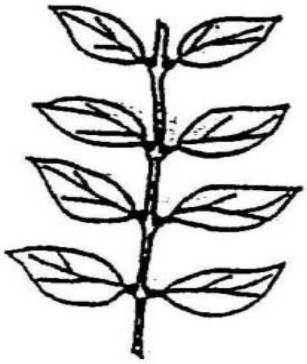
    - Pinnately compound leaf – A compound leaf with leaflets that are arranged on either side of a central main stem or petiole.



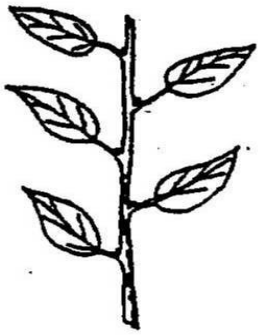
Leaf Characteristics

Leaf Arrangement

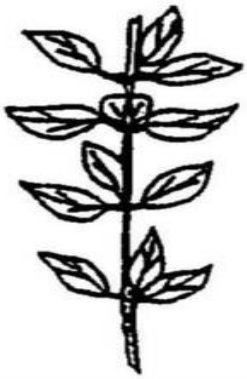
- Opposite leaves – two leaves grow opposite each other at the same location or node



- Alternate leaves – a single leaf grows from its own location or node and the leaves alternate sides along the stem

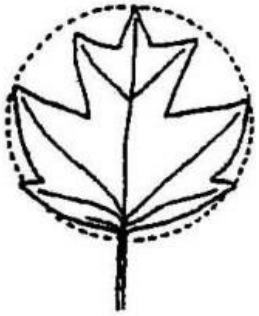


- Whorled leaves – three or more leaves growing from a single location or node.



Leaf Characteristics

Leaf Shapes



Circular or Round

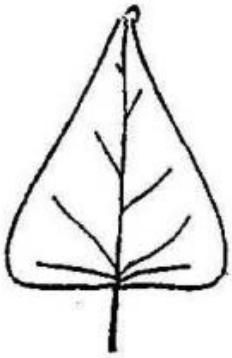
Oval

Elliptical

Linear

Heart

Egg or Ovate

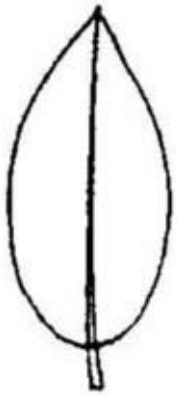


Triangular

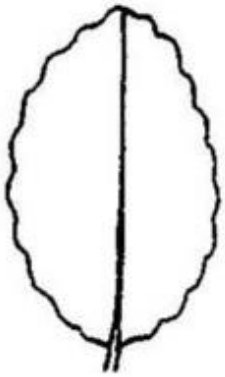
Lance

Leaf Characteristics

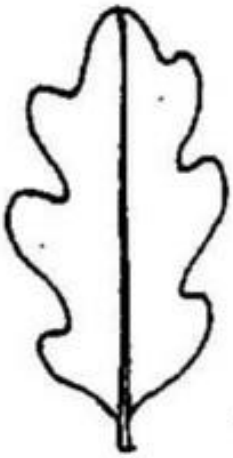
Leaf Margin



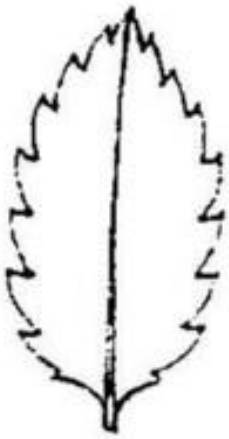
Entire or Smooth - The edge of the leaf is smooth.



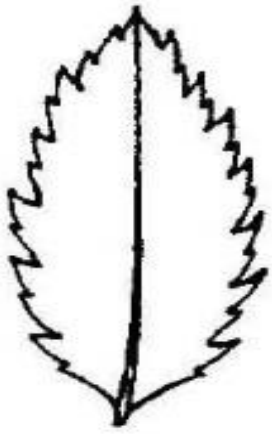
Wavy – The edge of the leaf is slightly curved.



Lobed – The edge of the leaf is deeply or mildly indented.



Serrate or Toothed – The edge of the leaf is toothed, this may include finely (small) or coarsely (large) toothed.

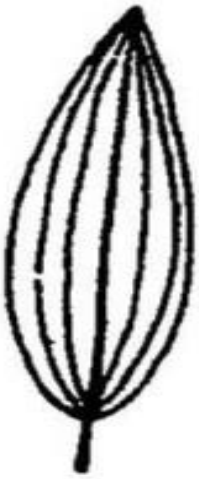


Double Serrate – The edge of the leaf is toothed with small teeth on larger teeth.

Bristle Tipped and Lobed – The leaf edge is lobed in varying degrees and also has hair-like tips.

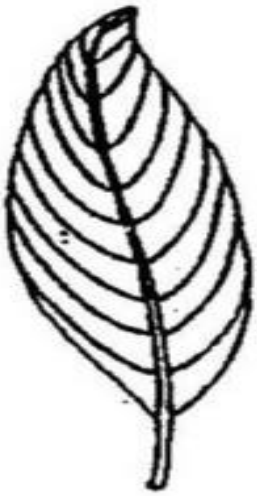
Leaf Characteristics

Leaf Veins



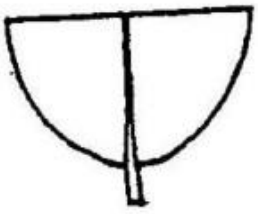
Parallel Veins – Major veins begin at the base, remain more or less parallel, and come together at the tip of the leaf.

Palmate Veins – Main veins begin from the base of the leaf like fingers of a hand.

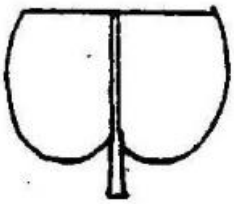


Pinnate Veins – Main veins extend from one large main vein.

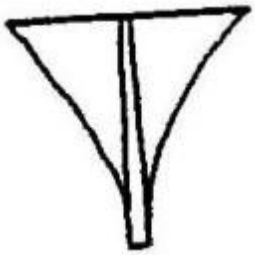
Leaf Base



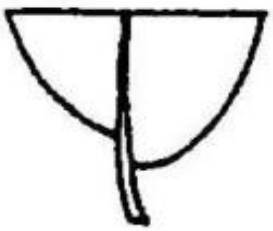
Rounded



Heart-shaped



Tapering



Uneven

Leaf Characteristics

Characteristics of Coniferous Leaves

Needle-like

Cluster or Bundle

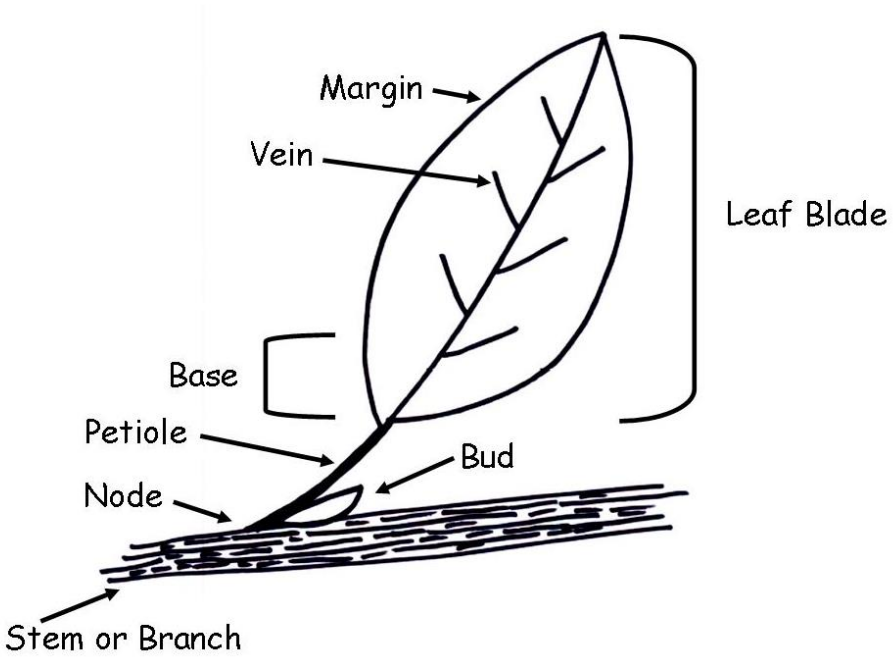
Single

Scale-like

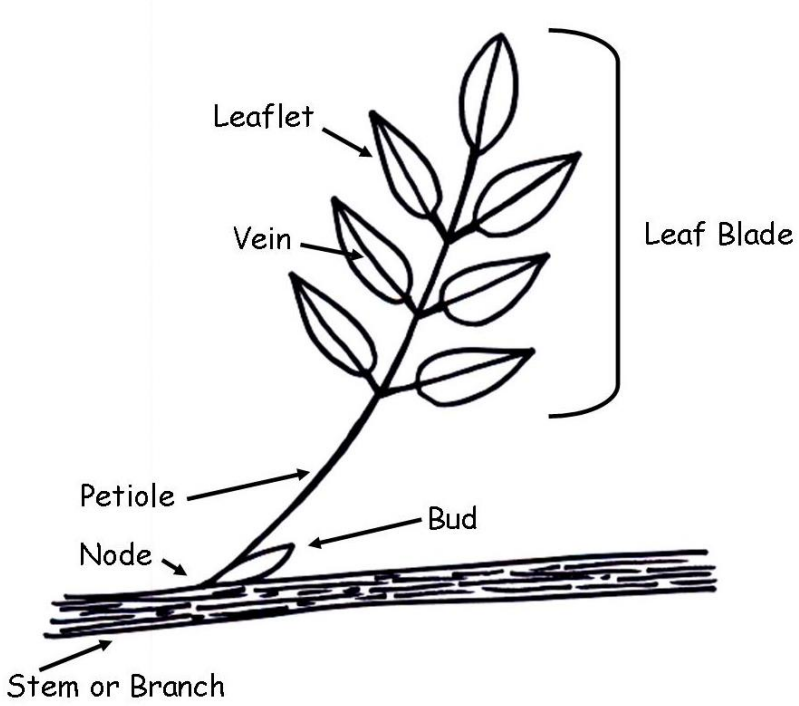
Leaf Characteristics

Leaf Structures

Parts of a Simple Leaf



Parts of a Compound Leaf



Leaf Characteristics

Glossary

Bud	A structure that will become a leaf, a flower, or a new shoot.
Compound Leaf	A leaf that is made up of 2 or more leaflets on the same petiole.
Coniferous	Any cone bearing tree species. Usually trees with needles.
Deciduous	Refers to trees that drop their leaves each autumn.
Evergreen	Trees that retain green leaves throughout the year. Lifespan of an individual leaf may be 2-15 years depending on the species and environmental conditions.
Leaf Blade	The broad, flat part of a leaf.
Leaflet	A leaf-like part or blade of a compound leaf. There is no bud at the base of its petiole.
Node	The point on a shoot where a leaf, flower, or bud is attached.
Petiole	Leaf stalk
Simple Leaf	A leaf that contains one blade.
Terminal Leaflet	The leaflet located furthest from the bud, typically only determined on a pinnately compound leaf.
MAD HORSE	A memory tool to remind students which trees have opposite leaf arrangements. **M**aple, **A**sh, **D**ogwood, and the buckeye family, including **horse**chestnut, have opposite leaf arrangement. Most other native <u>trees</u> in PA have alternate branching patterns. This tool does not include shrubs or vines.