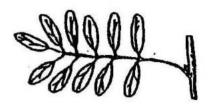
Characteristics of Broad Leaves

- Simple leaf leaf having only a single blade
- Contract of the second
- 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

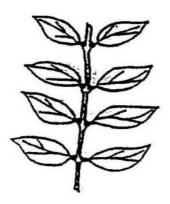


 Pinnately compound leaf - A compound leaf with leaflets that are arranged on either side of a central main stem or petiole.



Leaf Arrangement

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

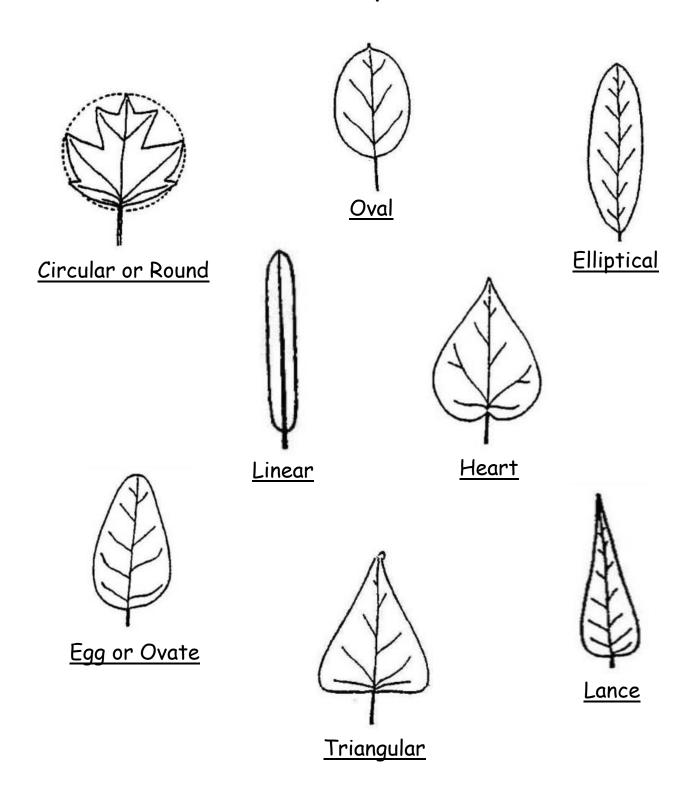


• <u>Alternate leaves</u> - a single leaf grows from its own location or node and the leaves alternate sides along the

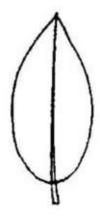
stem

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

Leaf Shapes

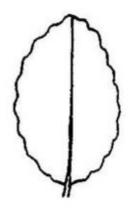


Leaf Margin

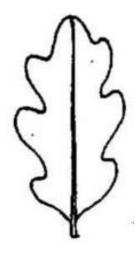


Entire or Smooth

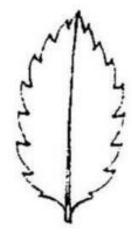
- The edge of the leaf is smooth.



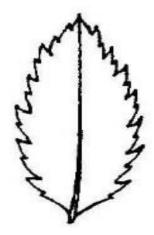
Wavy - The edge of the leaf is slightly curved.



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
or coarsely
toothed.

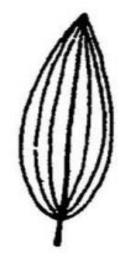


Double Serrate The edge of the
leaf is toothed
with small teeth
on larger teeth.



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

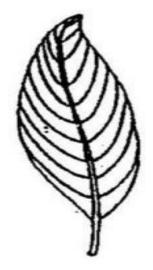
Leaf Veins



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

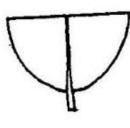


Palmate Veins - Main veins begin from the base of the leaf like fingers of a hand.

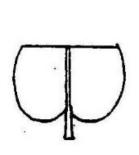


<u>Pinnate Veins</u> - Main veins extend from one large main vein.

Leaf Base



Rounded



Heart-shaped

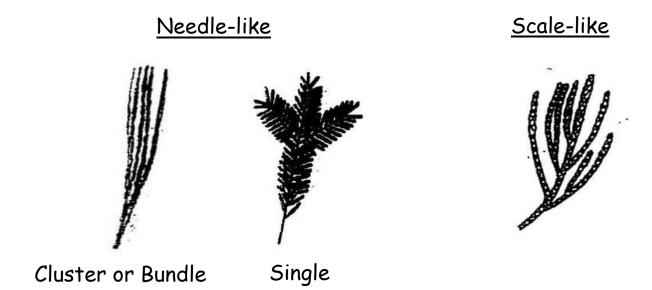


Tapering



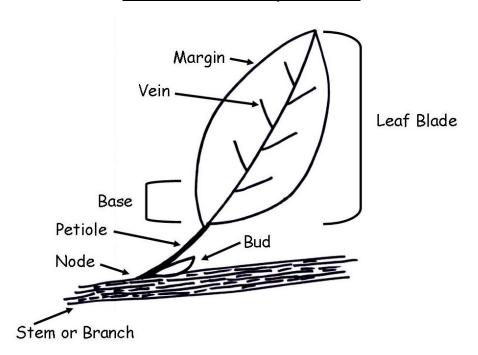
<u>Uneven</u>

Characteristics of Coniferous Leaves

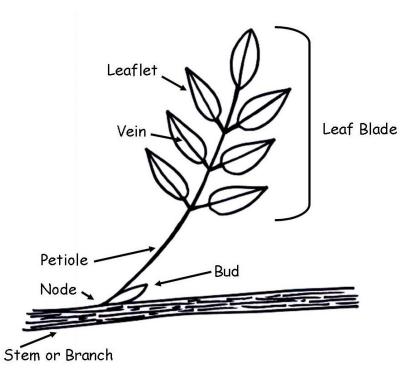


Leaf Structures

Parts of a Simple Leaf



Parts of a Compound Leaf



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. Maple, Ash, Dogwood, and
	the buckeye family, including horsechestnut, have
	opposite leaf arrangement. Most other native trees in
	PA have alternate branching patterns. This tool does not
	include shrubs or vines.