

Comparing Trees

Trees may be classified into two broad categories: **deciduous** and **evergreen**. Evergreens have leaves that remain on the tree for two or more seasons. In Ontario, the seeds of evergreens are contained in cones and the wood is soft and resinous (hence the term “softwood”).

In contrast, deciduous trees usually bear broad leaves that are shed each autumn. However, not all deciduous trees have broad leaves. Tamarack is a deciduous tree with needle-like leaves that are shed each autumn. The wood of deciduous trees is generally harder than wood of evergreens (hence the term “hardwood”).

Identifying Trees by Their Leaves

The *shape* of a leaf, the kind of leaf *margin*, the leaf *type* (i.e. simple or compound), and the *arrangement* of the leaves on the twig are all important factors in tree identification.

Poplar leaves, for example, are generally oval in shape. Birch leaves are more triangular, whereas basswood trees have heart-shaped leaves. Willow leaves are long and slender.

Leaf edges, or margins, also differ. Maple and oak leaves are lobed. Ash, beech, and elm have leaves with a toothed edge.

Beech, maple, oak and poplar have simple one-piece leaves. Hickory and ash have compound leaves made of several leaflets.

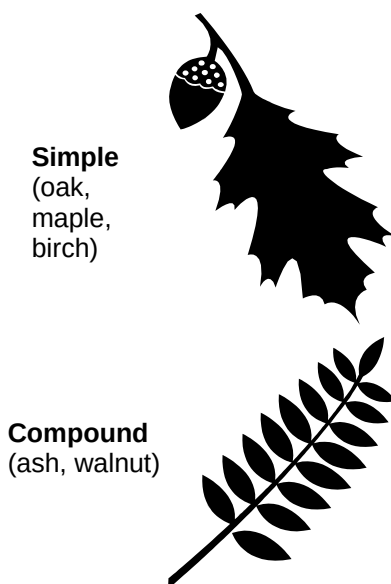
On some trees, the leaves are attached alternately on the twig. Oak, poplar, and cherry are three examples. On others, for example, the maple, the leaves are attached opposite each other. Still other trees have leaves arranged in a whorl.

Evergreen leaves can also be differentiated by shape. For example, the leaves of the white pine are long and needle-like while cedar leaves are flat and scale-like.

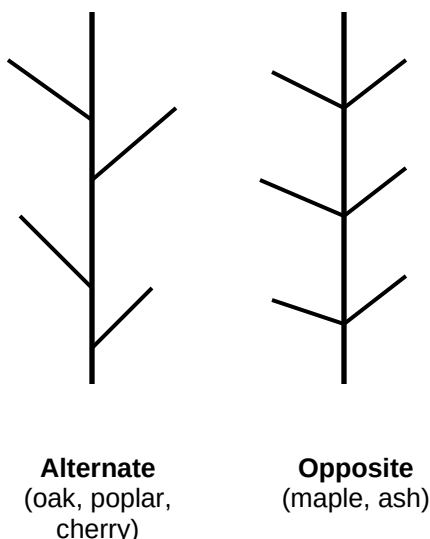
Some needle-like leaves occur singly on the twig; others occur in bunches. Spruce, hemlock, and fir needles occur singly. White pine has needles in clusters of five (just think, the word “white”, the same number of letters as the number of needles). Jack pine, red pine, and scots pine have two needles per cluster.



Leaf type



Leaf arrangement



Leaf edges



Toothed
(birch, elm)



Lobed
(oak, maple)

Leaves, bark, buds and shapes

Identifying Trees by the Bark

Tree bark can be differentiated according to colour, texture, hardness, and bark patterns.

Probably the easiest tree to identify by its bark is the white birch. The creamy white bark peels easily into large sheets, revealing the pinkish-orange inner bark underneath.

Sugar maples have dark grey bark that forms long, irregular vertical ridges (called fissures). Beech trees have thin, smooth bluish-grey bark. White oak bark is pale grey and rather scaly. White ash bark has a distinctive diamond-shaped pattern.

Evergreen bark is full of resin, a substance that sticks to hands and clothing. The bark of most evergreens changes colour and thickens as the tree ages. Young eastern white pine have thin smooth bark, often grayish-green in colour. As the tree matures, the bark becomes dark grayish-brown and develops long fissures.



Beech



Red Pine



Kentucky Coffee Tree



Aspen

Identifying Trees by Their Twigs and Buds

During the winter, twigs and buds can be used to identify trees. As with the leaves, it is important to notice how the buds are arranged on the twig (opposite, alternate or whorled). Note also the size, colour, stickiness, and hairiness of the buds.



Identifying Trees by Their Silhouettes or Shapes

General shape or outline of a tree may also be used to differentiate between tree species. Pine trees generally have branches at right angles to their trunks. In sheltered areas, their overall shape is oval. This shape can be contorted by the prevailing winds, often giving a bent and sculpted look (this is especially noticeable in the white pine).

The shape of a balsam fir tree, however, is almost symmetrical. Firs have branches that tend to bend downward and tapered trunks that give an overall steeple appearance to the silhouette.

The silhouettes of deciduous trees can be equally distinctive in summer or winter. Weeping willows have drooping branches. In direct contrast are the poplars with their tall slim outline. Oaks tend to have short sturdy trunks with a few large branches. Maples also have a few large branches but have larger spreading limbs that support wide, full crowns.



Focus on Forests is a forest education program for students from Grades 1 to 12 developed by the *Ontario Forestry Association* in partnership with the Ministry of Natural Resources. The resources created provide educators with activities and lesson plans to achieve provincial curriculums, while engaging students to learn more about Canada's forests and instill a better understanding and appreciation of those forests. The **Focus on Forests** Fact Sheets were created to enhance these online resources.