

Grade 6: Topic E: Plants and Shrubs

(To have a Weaselhead Naturalist visit your school and help identify plants in your neighborhood email education@theweaselhead.com)

What are Tree and Shrubs?

They are both woody plants with strong sturdy trunks or tough wiry stems, and branches which grow thicker and longer every year. They also have an outer bark layer. Trees and shrubs are woody plants. (Plants that die back every year like a dandelion are called 'herbaceous' plants.)

A SHRUB is a woody plant that usually has more than one stem and is less than 6 meters tall when fully grown.	A TREE is a woody plant that usually has one stem and is over 6 meters tall at maturity.
A tree/shrub is DECIDUOUS if it loses its leaves/needles during the winter. Leaves are shed to conserve water during the winter months.	A tree/shrub is EVERGREEN if it keeps its leaves over the winter. Thick waxy leaves or needles help conserve water during the winter.
A tree/shrub is a FLOWERING plant if it produces flowers. Seeds are contained in a 'fruit'. The outer layers of the fruit can be fleshy like an apple or thin and dry like the outer layer of a sunflower seed. Most flowering plants are deciduous but some are evergreen – like bearberry (also called kinnickinick). It keeps its leaves all winter.	A tree/shrub is a CONIFER if it produces cones. These contain 'naked' seeds – ie not contained within a fruit. Most of these species have needles or scales. While most are evergreen some like larches are deciduous and lose their needles in the winter.

Can you find these native trees and shrubs in your neighbourhood?

Trembling Aspen: is a **DECIDUOUS** tree with **SIMPLE** leaves that look like this -----

(If you find a tree with **COMPOUND** leaves it is an introduced species – there are lots of them: If the tree has big bunches of red berries you may have found a **European Mountain Ash**; if it has bunches of papery seeds that spiral to the ground when you throw them in the air, you may have a **Green Ash**)



Trembling aspens are either male or female. In spring their **FLOWERS** are held on long fuzzy catkins (like caterpillars): catkins on female trees contain seeds, catkins on male trees contain pollen. They have smooth grey bark covered (especially on the sunny side) with a white powder. Try rubbing the trunk. This powder is thought to protect the tree from sun damage.

If you find a group of Aspens growing together it may in fact be just one organism, all the trees growing from one root system.

White Spruce: look for an **EVERGREEN** tree that has **CONES**. Trees produce both male and female cones. The male cones are small, purple/red structures at the tips of branches. They release clouds of pollen in spring then drop off so you won't find them in fall. Female cones are much larger, often at the top of the tree or lying around underneath it. They have seeds lodged between the scales of the cone – they are what most people think of as 'cones'.

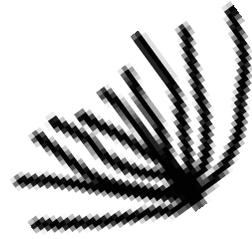
- **White Spruce** have short, prickly **NEEDLES**. When you roll a spruce needle between your fingers you will find that it is square shaped.
- If the needles are long and in pairs or threes or fours, you are looking at a **PINE tree**. Pines are not native to Calgary.
- If the needles are soft and flat, you are looking at a **FIR tree**. There is a native fir (called Douglas Fir) that grows here along the edge of the Bow River, but if you find one elsewhere it was probably planted.
- Most of the spruce in people's yards are **Colorado Blue Spruce**, native to the USA and eastern Canada, not our native White Spruce. You can tell the difference if you find a cone: Blue Spruce have big cones 6 or 7 cm long with little spikes sticking out from the scales – White Spruce cones are much smaller and the scales have rounded ends



Balsam Poplar, a native tree: Leaves are much bigger than those of the aspen, often 7 or 8 cm across. They are heart shaped with a sharp point at the tip. The leaves fall off in fall so it is an **EVERGREEN** or **DECIDUOUS** plant?). Like trembling aspens, trees are either male or female and have **FLOWERS** called catkins, (catkins on female trees produce seeds, catkins on male trees produce pollen). They have thick bark, and can reach 25 meters tall when fully grown.

Larch: you might find a larch near your school. They are not native to Calgary but have been planted.

Larches are **CONIFERS** with needles and cones; however the needles fall off in fall so they are **DECIDUOUS**, not evergreen like most conifers. Needles grow in clusters of 10 or 12. If these have fallen off, look around under the tree. There will be a carpet of golden brown needles.



Juniper is an **EVERGREEN** shrub you may see in parks and growing people's yards. Some species are native and some are introduced; some grow like a green mat across the ground others are taller and bushy.

The small leaves cover the stems like scales.

Junipers have separate male and female plants like aspens or poplars. The blue 'berries' found on female junipers are in fact **CONES**. (If you look closely you can see they have tiny scales.)



Bearberry or Kinnikinnick is a native shrub with small, thick, leathery **EVERGREEN** leaves. These prevent moisture loss and allow the tree to live in high elevations and dry conditions. Similar to Juniper, Bearberry grows low to the ground like a mat.

If you lift a branch and look underneath you may find tiny **FLOWERS** in spring and little red berries in fall.

Red-osier dogwood is a native **DECIDUOUS** shrub.. Leaves grow in pairs **OPPOSITE** to each other, are oval in shape with a pointed tip. In fall its leaves go a lovely purplish red. It has **FLOWERS** in spring. The fall berries are white, and the bark is red. (You can eat the berries but they taste awful.)



*You will find lots of non-native and native shrubs that are not listed here. To find out what they are send a description of the plant (is it **DECIDUOUS** or **EVERGREEN**; does it have **CONES** on or under it; are the leaves **COMPOUND** or **SIMPLE**; are the leaves arranged **OPPOSITE** each other or do they **ALTERNATE** along the stem) with some photos of the plant to weasel@theweaselhead.com.*