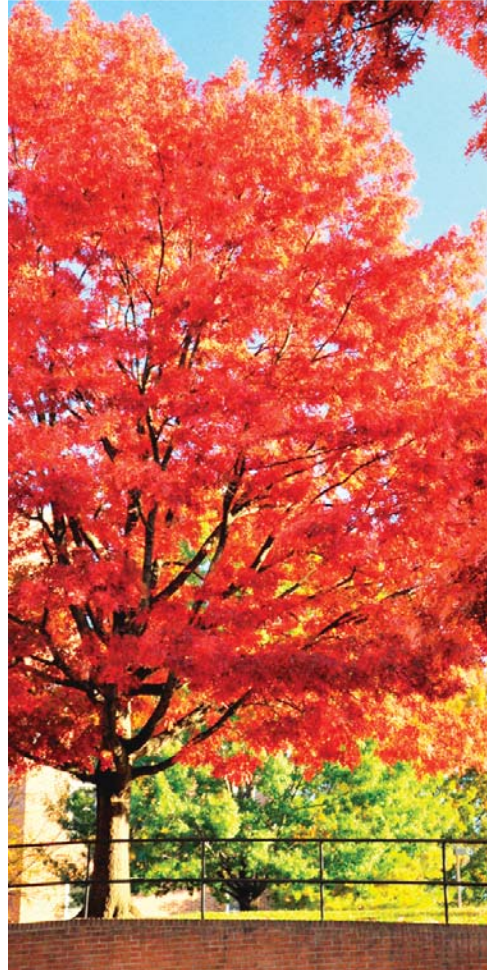




**PORTLAND PARKS & RECREATION**

Healthy Parks, Healthy Portland



## Maplewood School Tree Walk

**LEARNING LANDSCAPES**



## Maplewood School Tree Walk 2015 Learning Landscapes

Site data collected in Summer 2014.

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### Cover photos (from top left to bottom right):

- 1) Eastern larch cones are small and upright on the branch.
- 2) The autumn color of a Magnifica hackberry.
- 3) Scarlet oak gets its name from its brilliant red autumn leaves.
- 4) A young American yellow wood tree growing at Maplewood School.
- 5) Students and volunteers prepare to plant trees.
- 6) Vine maples prefer to grow in the shade.
- 7) The trunk of a Himalayan whitebarked birch.
- 8) A London planetree's unusual fruit.

ver. 1/30/2015

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Commissioner Amanda Fritz  
Director Mike Abbate

# The Learning Landscapes Program



## Maplewood School

The Maplewood School Learning Landscape was initiated in April 2006, and the collection includes 15 trees. This tree walk identifies trees planted as part of the Learning Landscape as well as other interesting specimens at the school.

## What is a Learning Landscape?

A Learning Landscape is a collection of trees planted and cared for at a school by students, volunteers, and Portland Parks & Recreation (PP&R) Urban Forestry staff. Learning Landscapes offer an outdoor educational experience for students, as well as environmental and aesthetic benefits to the school and surrounding neighborhood. Learning Landscapes contain diverse tree species. They are designed to teach students about biology and urban forestry issues, but can also be used to teach geography, writing, history and math, and to develop leadership skills.

## Community Involvement

Community-building is crucial to the success of Learning Landscapes. PP&R works with Urban Forestry Neighborhood Tree Stewards, teachers, parents, students, and community members to design, plant, establish and maintain these school arboreta. PP&R facilitates this collaboration by working with the school district, neighborhood, students and teachers to create landscapes that meet the need of the individual school community.

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*By involving students and neighbors in the tree planting, the community has ownership of the trees and a tangible connection to their school.*

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## Tree Planting Experience

Learning Landscapes are planted by the school's students under the mentorship of middle or high school students and volunteers. On planting day, tree planting leaders teach students the benefits of urban trees, form and function of trees, and tree planting techniques. This leadership aspect of Learning Landscapes gives older students and volunteers the opportunity to connect with their peers, build confidence, and develop public speaking skills. Involving students and neighbors in the tree planting fosters community ownership of the trees and builds a tangible connection between school and neighborhood. This helps ensure a high tree survival rate by reducing vandalism and encouraging ongoing stewardship of the school's trees.

## Continued Hands-on Learning Opportunities

Once planted, Learning Landscapes are used by teachers and parents for service and leadership projects. Students and teachers continue to build projects around the trees with opportunities to water, prune, weed and mulch. These dynamic landscapes change year after year, depending on student and teacher interests, as new trees are planted and added to the collection.

## How can I get involved?

Visit <http://www.portlandoregon.gov/parks/learninglandscapes> for volunteer opportunities, to view more maps, and to learn how to plan a Learning Landscape in your community.

# Maplewood School Tree Walk





## Learning Landscapes

<http://portlandoregon.gov/parks/learninglandscapes>

100 Feet



-  Learning Landscapes tree
-  other tree

# Maplewood School Tree Walk

Tree #	Common Name	Scientific Name
1	red maple	<i>Acer rubrum</i>
2	Norway maple	<i>Acer platanoides</i>
3	Oregon white oak	<i>Quercus garryana</i>
4	Autumn Gold ginkgo	<i>Ginkgo biloba</i> 'Autumn Gold'
5	London planetree	<i>Platanus x acerifolia</i>
6	eastern larch	<i>Larix laricina</i>
7	Autumn Gold ginkgo	<i>Ginkgo biloba</i> 'Autumn Gold'
8	vine maple	<i>Acer circinatum</i>
9	American yellowwood	<i>Cladrastis kentukea</i>
10	eastern larch	<i>Larix laricina</i>
11	Magnifica hybrid hackberry	<i>Celits x 'Magnifica'</i>
12	Harvest Gold linden	<i>Tilia x 'Harvest Gold'</i>
13, 15	Oregon white oak	<i>Quercus garryana</i>
14	October Glory red maple	<i>Acer rubrum</i> 'October Glory'
16	Himalayan whitebarked birch or Jacquemont birch	<i>Betula utilis</i> var. <i>jacquemontii</i>
17	scarlet oak	<i>Quercus coccinea</i>
18	bigleaf maple	<i>Acer macrophyllum</i>

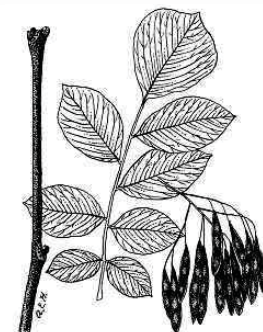
## Tree Facts, A to Z

### American yellowwood, *Cladrastis kentukea*

*Origin: North America – Appalachia, southern Missouri and north Arkansas*

This deciduous broadleaf tree is one of the rarer U.S. trees in the wild. It is found most commonly along streams draining the western slopes of the Allegheny Mountains in Tennessee and Kentucky,

with outlying populations in northern Arkansas and southern Missouri. Prefers fertile, well-drained soils. Usually 30-40' high with equal spread but can reach 60'. Compound leaves have 5 to 11 broad leaflets 3-4" long, turning butter yellow in fall. In late May-early June the tree blooms spectacularly with wisteria-like white flowers in clusters 12-14" long at the ends of twigs. Trees don't flower until they are typically at least 10-12' tall, and may flower only in alternating years. Small, flat bean-like pods follow the flowers and ripen in September. Bark is smooth and gray. The heartwood is a clear yellow, hence the tree's name. The wood was occasionally used for gunstocks but has never been commercially important. Lives between 100 and 200 years.



### Autumn Gold ginkgo, *Ginkgo biloba* 'Autumn Gold'

*Origin: Asia - male cultivar of a Chinese tree*

Ginkgo is a pyramidal to rounded deciduous tree growing 60' to 100' tall. The bark has vertical scales, becoming deeply furrowed in maturity. The branches are alternate with leaves emerging from prominent 1/2" long nodes along the stem. Each node displays a whorl of approximately 5-7 fan-shaped leaves.



Male and female trees are separate. The female tree produces an edible fruit about 3/4" long, which has been described as "nature's stink bomb." Only one species of ginkgo tree remains in this ancient tree family that dominated forests millions of years ago. This cultivar is a symmetrically-branched tree eventually reaching 40' x 30' wide. Nice butter yellow fall color. Leaves in autumn tend to drop all together (within a few days of each other) making fall cleanup quick rather than drawn out over weeks. Tolerant of full sun or shade, with no pests or diseases. Best growth with summer

watering the first several years until well established, then drought tolerant.

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**bigleaf maple, *Acer macrophyllum***

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*Origin: North America - Oregon and Washington west of the Cascades, northern California, and British Columbia, Canada*

The largest leaves of any maple are found on this Pacific Northwest native. The species name means "big leaf", which is an apt description for the 5-lobed leaves 8" to 12" across. They turn yellow to rich gold in fall. Like Norway maples, the leaf stems exude a milky sap when cut. The greenish flowers hang in showy clusters in early spring and are insect pollinated. The tree's deep taproot helps it find water in dry summers. The tree produces prolific amounts of seed, some of which are eaten by Douglas squirrels, finches and evening grosbeaks. The many not eaten readily germinate and send up thousands of seedlings. These grow with astonishing speed, which is one reason bigleaf maple has been able to invade disturbed areas. Suppression of fire has benefitted bigleaf maples, which have encroached on formerly fire-maintained savannas at the expense of Oregon white oaks. The tree grows from southern British Columbia into northern California, at elevations from sea level to 3,000'.

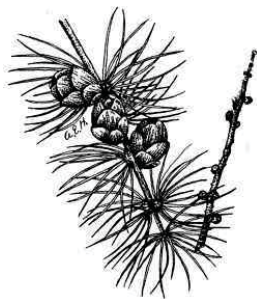
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**eastern larch, *Larix laricina***

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*Origin: North America - from Alaska east across Canada to Newfoundland and in the USA in Minnesota, Wisconsin, Michigan, New York and New England*

Larches, also called tamarack, are deciduous conifers. Eastern larch grows up to 60' tall. Trees are extremely hardy and straight, with conical shapes. Needles are borne on woody pegs in clusters of 20-40. Mature bark is furrowed and flakes off in irregular shapes leaving reddish-orange patches. In the spring, larch needles are paler than other conifers, turning yellow in the fall. Cones are small and tulip-like, occurring in small bunches and having very few scales. The native



western larch (*Larix occidentalis*) is similar but grows to about three times the height and has cones that are larger and upright on the branches.

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**Harvest Gold linden, *Tilia x 'Harvest Gold'***

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*Origin: Asia - hybrid linden of *Tilia mongolica* and *T. cordata**

This hybrid between *Tilia mongolica* and *T. cordata* was selected in Manitoba, Canada for its hardiness to extreme cold, its resistance to leaf spot and sun scald, its strong central leader and more uniform (and therefore more effective) golden yellow fall color. More compact than many lindens, Harvest Gold reaches 30-40' tall and 25-30' wide but the species can reach 100' or higher. The oval-shaped leaves have toothed margins, drip points at the tips, and are up to 3" long. Yellow flowers hang in clusters attached to a leaf bract in June. Highly fragrant, they also attract bees in large numbers. Small round, pale-colored nutlets appear in autumn. Fall color is pale yellow but not especially showy. Like all lindens, prone to suckering from the base of the trunk. These should be removed promptly.



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**Himalayan whitebarked birch or Jacquemont birch, *Betula utilis* var. *jacquemontii***

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*Origin: Asia - western Himalayas, including Kashmir in India and Pakistan*

Most often seen in a form which has the whitest bark of any birch grown in Portland. The bark is smooth, bright white and exfoliates in horizontal strips to reveal cream underbark. It does not develop black, blocky plates like many European and American birches. Upright growth 40' to 65'. Leaves are ovate, slightly hairy and with serrate margins. They turn yellow in autumn. Once considered resistant to bronze birch borer, it has proven to be as susceptible to fatal attacks as other birches. Grows at elevations up to 14,800' in Nepal and Kashmir. Its name in Sanskrit is *bhojpatra*. First described by western scientists in 1825. The name *jacquemontii* honors French plant explorer Victor Jacquemont (1801-1832), who died tragically while

plant hunting in the Himalayas. The bark has been used for over 2,000 years as writing paper, as well as bandages, umbrella covers, packing material, and roof construction. Widespread cutting for firewood has reduced the tree's numbers considerably.

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### London planetree, *Platanus x acerifolia*

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*Origin: Europe - a hybrid between the North American Platanus occidentalis and European Platanus orientalis*

London planetree is a deciduous tree growing to 115' tall. The bark peels back in plates, revealing light gray, yellow, and even orange hues of underlying bark. Shedding bark is a way for the tree to shed pollutants and breathe with new bark again. Older trees develop bumps that make the bark look like dripping candle wax. The thick leaves (about 5-8" long) are fuzzy beneath when young and have a similar shape as maple leaves. There are three to five main lobes radiating out from the center of the stem. The edges of leaves are toothed, tapered, and pointy. The spiky round fruits (about 1" diameter) are also unique, spaced out along a stem like beads on a necklace. London planetree may be the most popular urban street and park tree planted across the United States and Europe. Tree populations that are clones tend to become diseased easily. London planetree also grows quickly and has been grown for timber, especially for a particular expensive type of wood called lacewood.



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### Magnifica hybrid hackberry, *Celtis x 'Magnifica'*

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*Origin: North America - believed to be a hybrid of C. occidentalis and C. laevigata*

A broadly oval to vase-shaped tree with arching branches, reaching 50' tall by 40' wide. Reportedly exhibits better insect resistance and faster growth than its parents. Supposedly good drought resistance and tolerant of clay soils. Thought to be a hybrid between two eastern U.S. hackberries - *C. occidentalis* and *C. laevigata*. Light green leaves with serrated edges. Yellow fall color. Tan bark develops warty ridges with age and turns gray.

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### Norway maple, *Acer platanoides*

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*Origin: Europe - from Scandinavia and western Europe (but not the British Isles) east to Ukraine, Russia, Georgia, Armenia, Turkey and Iran*

Norway maple is a deciduous tree with a spherical to oval crown growing 40-70' tall. Like other maples, branching is opposite. Gray bark develops shallow vertical crevices, the coarse texture providing a place for moss to take hold. Leaves range from 4-7" wide with 5 to 7 lobes spreading from the center like fingers from a hand and each lobe coming to a point. Fruit is a winged seed, about 2" straight across. If you pull a leaf off the tree, a milky white sap emits from the leaf stem, unique to this species and bigleaf maple. There are many cultivars of Norway maple, with colors ranging from green (yellow in autumn) to reddish purple. Norway maple's hardy nature and strong shading capacity make it one of the most prevalent trees planted in urban environments. The tree's robust nature causes it to occasionally escape into natural habitats, shading out native woody species.

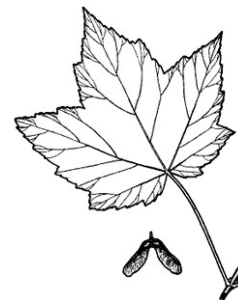
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### October Glory red maple, *Acer rubrum* 'October Glory'

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*Origin: North America - cultivar of a U.S. species*

October Glory is the last red maple cultivar to color in the fall, holding its fiery hue until November. Fall color is deep red to reddish-purple. The overall structure is a round head. While it is less cold hardy than most cultivars, it seems better adapted to areas with mild winters and warm summer temperatures, although summer drought stresses it like most red maples. Introduced commercially in 1961 by Princeton Nurseries. Maples, especially red maples, may be too popular for their own good. Many Portland neighborhoods have 30% or even 40% of their street trees all in the genus *Acer*. This makes the trees more vulnerable to catastrophic outbreaks of pests and diseases. Modern guidelines recommend planting a broader diversity of species and genera to reduce the impact if any single species or genus is struck by an introduced pest or disease.



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**Oregon white oak, *Quercus garryana***

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*Origin: North America - southern British Columbia, Canada through Washington and Oregon west of the Cascades and northern California*

Oregon white oak is a deciduous tree growing up to 90' tall. Branches are dense and wide, with limbs of solitary trees reaching to the ground. The leaves (3–6" long) are thick and shiny with rounded lobes. A distinguishing feature is the presence of galls on the underside of leaves or small twigs. The galls are the home of little wasps that lay their eggs inside oak leaves. The fruit of the Oregon white oak is an acorn about 1" long that protrudes from a narrow cap. These trees prefer open grassland habitats where they cannot be shaded out by other species. Oregon white oak was once one of the predominant trees in the Willamette Valley, but has declined to only 1% of its original range due to land development for farms and cities, and a reduction in wildfires. The tree's nickname, Garry oak, is after Nicholas Garry, the secretary of Hudson's Bay Company who helped botanist David Douglas.



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**red maple, *Acer rubrum***

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*Origin: North America - eastern Canada, eastern USA from Minnesota to Maine south to Florida and east Texas*

In urban environments, red maple is a fast grower up to 40', but in the wild it may reach three times that height. It has a roundish to diamond-shaped crown. Bark is smooth, luminous gray with patterned lines, and furrowed when old. New twigs are shiny, reddish, and have white flecks. Leaves are opposite, 3–5" long with three major lobes, turning brilliant red, orange-red or yellow in the fall. The tree explodes into deep red flowers before the leaves emerge in spring. Fruit is a double-winged samara, joined at an angle usually larger than 45 degrees with bulbous seeds which are reddish at first and brown when ripe in the summer. Red maple is toxic to horses, and the alluring scarlet leaves cause massive destruction of horses' red blood cells when ingested. Trees adapt to local conditions and over generations, northern trees have become more cold-tolerant while southern trees have become more heat-tolerant. Neither is very drought tolerant.

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**scarlet oak, *Quercus coccinea***

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*Origin: North America - southern Ontario Canada and eastern USA from New England to Appalachia, west to Indiana with a disjunct population in southern Missouri*

Scarlet oak is closely related to red oak, but its leaves flame scarlet in the autumn. Trees seldom exceed 80', but can live more than 150 years. Bark is dark brown, smooth and shallowly ridged with age. Male flowers are yellow-green drooping catkins; females are inconspicuous and appear separately on the same plant in late spring. While foliage is green, the leaves may be distinguished by their extra bristled teeth flaring out from the lobes—noticeably more than the pin and red oaks'—and deep O-shaped notches between the lobes. Acorn cups shaped like tops enclose about half of the ¾" nut. If it transplanted as well as its relatives, it would be much more popular in urban environments. It must be grown from seed or pampered, but will eventually thrive in gardens or parks. The scarlet oak is the official tree of the District of Columbia, where the twenty-third president, Benjamin Harrison, planted one at the White House. The scarlet oak has been cultivated since 1691.

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**vine maple, *Acer circinatum***

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*Origin: North America - Oregon and Washington west of the Cascades, northern California, and British Columbia, Canada*

Native from southern British Columbia into coastal California, vine maple is most frequently seen as a multi-stemmed shrub in the forest understory beneath taller trees. Its branches will twist and curve to reach sunlight pouring in from any break in the canopy, giving the tree the epithet of "octopus tree" for its often odd shape. If trained as a sapling to have a single trunk, vine maple can attain heights of 15' or more, and usually as wide or wider. More closely related to Japanese maples than other U.S. maples, vine maple has attractive 7 to 9-lobed leaves that are 3" to 4" across. These turn gold to orange or red in fall, but are subject to scorching if grown in full sun. Vine maple is not well adapted to urban settings and should be planted in conditions resembling moist forest. The small flowers are reddish to purple, the samaras have red wings, and the young shoot growth is red, making it easy to find something red on the tree year-round.