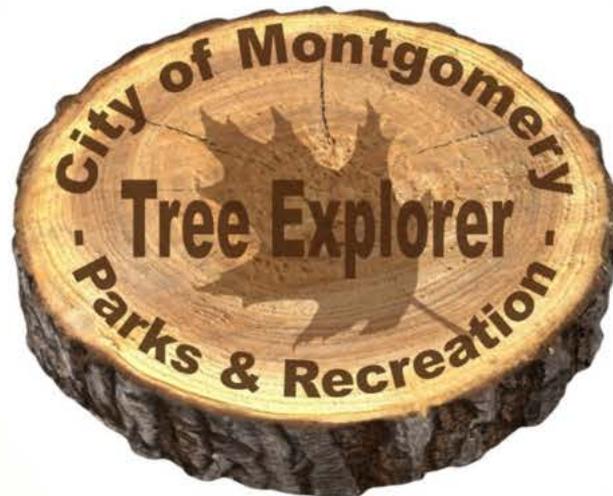


Montgomery Tree Explorer



Ages 6 and up

This workbook belongs to:

Welcome Tree Explorers

Dear Parents,

We are pleased to have your family participating in the Montgomery Tree Explorer program. This program was developed by the City of Montgomery Recreation Department and the Montgomery Parks and Recreation Commission to encourage youth to explore Montgomery parks and learn about our various local trees.

The Montgomery Tree Explorer program is designed for all ages. We have two workbooks; one for preschool ages 2-5 and the other workbook for ages 6 and up. Throughout these workbooks you will find a variety of age appropriate activities that will engage your family in learning about various trees within the parks in a fun and active way. This is a great program to enjoy as a family, as younger children may need assistance in completing their activities. To assist in finding the locations of each of our parks we have included a map on the back of the workbook of the city as well as the street location of each park.

We look forward to helping your family become Montgomery Tree Explorers. Please bring your completed workbook to City Hall located at 10101 Montgomery Road. A member of our recreation team will review the workbook and call to inform you when your explorer certificate and patch are ready. Your completed workbook will be returned to you to keep with your certificate and patch. This program will be ongoing, so invite your family, friends and neighbors to become a Montgomery Tree Explorer with you.

City of Montgomery, Parks & Recreation Staff



Montgomery's Arborist

The beauty of Montgomery's streets and parks is due in great part to having a staff arborist. For over 30 years that person has been Terry Willenbrink, Montgomery's arborist.

An arborist is a person who is trained to know all about trees - planting trees, landscaping, designing parks, keeping trees healthy as well as trimming and shaping trees. Few communities of our size are lucky enough to have an arborist.

Because of his work, Montgomery has been awarded Tree City USA status by the National Arbor Day Foundation every year since 1997 for its excellence in urban forestry management.

Terry leads educational walks in Montgomery parks on Arbor Day and during the annual fall tree color changes.

Arborist related questions can be sent to Terry at twillenbrink@montgomeryohio.org



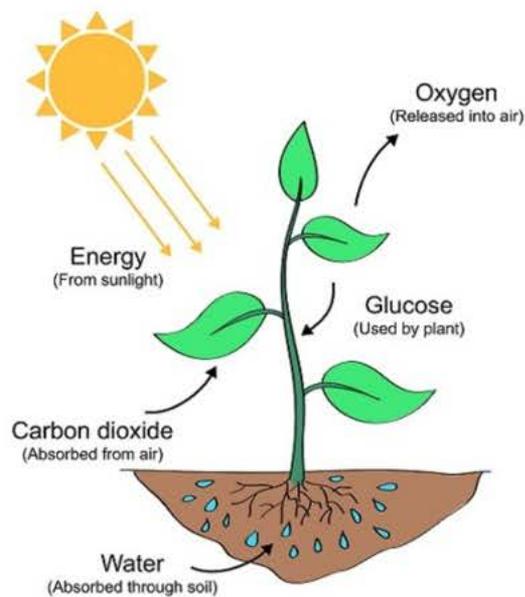
Tree Science

TREE NAMES (COMMON & SCIENTIFIC)

Common names for trees and plants are used by local people. Common names may be totally different from one state, county or local area to another and they may change as new people move into an area.

A scientific name is used to avoid the confusion caused by common names by giving a unique name to each type of plant. The naming system was invented by the Swedish botanist Carl Linnaeus in the 1700's using Latin names. It is based on closely related plants and each type of plant is assigned a two-part name - a Genus and Species.

Example: The scientific name for White Oak is *Quercus alba*. "Quercus" is the Latin name for oak tree and "alba" means white.



PHOTOSYNTHESIS

Trees and plants provide clean air, food and shelter for humans and animals. The air we breathe in is made up of 21% oxygen, 78% nitrogen, 0.04% carbon dioxide plus other minor gasses. The air we breathe out is 16% oxygen, 78% nitrogen and 4% carbon dioxide.

Green plants use sunlight during the day for photosynthesis - to convert carbon dioxide (CO₂) in the air plus water into oxygen for people and animals to breathe and sugar for energy, leaves and growth.

Why do some plants appear green, purple, red or yellow?

Green plants appear green because they contain a pigment called chlorophyll which traps or absorbs certain wavelengths of light within the visible light or rainbow spectrum.

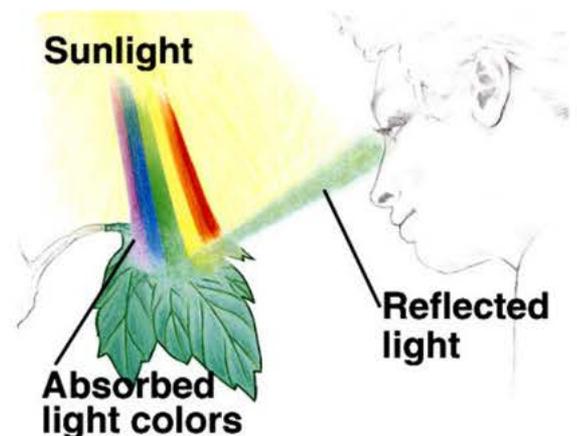
Chlorophyll absorbs light in both the red (long wavelength) and the blue (short wavelength) regions of the visible light. Green light is not absorbed but reflected, making the plant appear green to our eyes.

There are three other plant pigments that affect their color:

- Carotenoids - Orange
- Xanthophylls - Yellow
- Anthocyanins - Red, purple, blue

This drawing shows green leaves with chlorophyll that reflect green light and red flowers with anthocyanins that reflect red colors.

Tree leaves that are red or purple still contain chlorophyll, or else they couldn't photosynthesize, but the green color is masked by strong anthocyanin pigmentation.





Johnson Nature Preserve

10840 Deerfield Road

7.2 Acres



SASSAFRAS (*Sassafras albidum*)

The leaves of the Sassafras tree are unusual in that they come in three different shapes, all of which can be on the same branch. Native Americans used all parts of the tree for medicines and cooking, and its bark and roots were the original source of the flavor for root beer.

During a brief period in the early 17th century, sassafras was the second-largest export from the British colonies in North America after tobacco.

In 1960, the U.S. government said safrole oil in sassafras could cause cancer in rats and banned its use in foods and medicines.

(Several trees are located 20 feet north of Deerfield sidewalk)

The tuliptree is the state tree of Indiana, Kentucky, and Tennessee and is the tallest of all trees in Ohio at 165 feet. The leaves are tulip-shaped and the spring blossoms also resemble a tulip flower.

The tuliptree is also known as tulip poplar, yellow poplar and canoe wood tree. Native Americans used these very large logs to make dugout canoes.

Montgomery's 1999 tornado destroyed most of the Johnson Nature Preserve resulting in an openness in which these fast-growing trees thrived and were among the first to repopulate the damaged forest. Natural regeneration is usually by seed or stump sprouts. There are many examples of these stump sprouts giving rise to several new trees from each stump or fallen log.

(Many old and new tuliptrees in area of Nature Walk post #3)

TULIPTREE (*Liriodendron tulipifera*)



Johnson Nature Walk

The Johnson Nature Walk offers an educational experience highlighting the animals, plants, and history of Johnson Nature Preserve. Walking along the trail, you can read and learn from the signposts throughout the park.

For an audio tour and more detailed information about each topic, scan the QR code here or on the first post for the free JNP mobile app. or enter <http://www.montgomeryohio.org/things-to-do/parks/johnson-nature-preserve/>



QUESTION

- 1) A major tornado destroyed almost all the trees in the nature preserve in the year ____ ?
Most trees we see here have regrown naturally since the tornado.



Dulle Park

10530 Deerfield Road
15 Acres

OHIO BUCKEYE (*Aesculus glabra*)

The Ohio Buckeye is the state tree of Ohio. It is called the buckeye because its nuts resemble the shape and color of a deer's eye. The buckeye is relatively common in Ohio, growing especially well in shaded areas in moist soil and along rivers and streams. There are seven species of buckeye trees native to the United States with the Ohio buckeye found most in western Ohio and the yellow buckeye in southeastern Ohio.

Buckeyes are unique with their flowers in early spring and losing their leaves before most other trees in the fall after turning striking orange and yellow colors in late summer. They are part of the horsechestnut family of trees which produce similar large brown nuts that are poisonous to humans and most animals. Early farmers would often cut down the buckeye trees to prevent their animals from eating the buckeyes. Buckeye wood is very light, weighing only one third that of oak wood.



Most buckeye leaves in Ohio have five leaflets while horsechestnuts have seven. The outer covering of the fruit of the yellow buckeye is smooth while the outer covering of the Ohio buckeye is spiny. Ohio buckeyes are seldom used as a street tree because of an odor it produces when damaged and because its shallow roots make larger trees unstable in heavy storms. (Buckeyes are in Dulle and Pioneer parks)



REDBUD (*Cercis canadensis*)

The Eastern Redbud is a small tree that is native in Montgomery and eastern states. It announces the arrival of spring with its showy, lavender-pink flowers that typically open in April and give this tree its name. The redbud is a member of the pea family and its blossoms are edible with a mild citrus taste. The Eastern redbud has a green heart shaped leaf, only grows to about twenty feet, and often lives about twenty years before it begins to decline or die.

George Washington planted these trees in his gardens at Mount Vernon. There are now many color variations. The beautiful Forest Pansy redbud is unusual with its purple leaves and it has been planted in most of our parks.



Use the chart below to answer the question

Letters	A	B	C	D	E	F	G	H	I	J	K	L	M
Numbers	26	25	24	23	22	21	20	19	18	17	16	15	14

Letters	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Numbers	13	12	11	10	9	8	7	6	5	4	3	2	1

1) The Ohio state tree is called the _____ tree.

25 - 6 - 24 - 16 - 22 - 2 - 22

Tree Rings

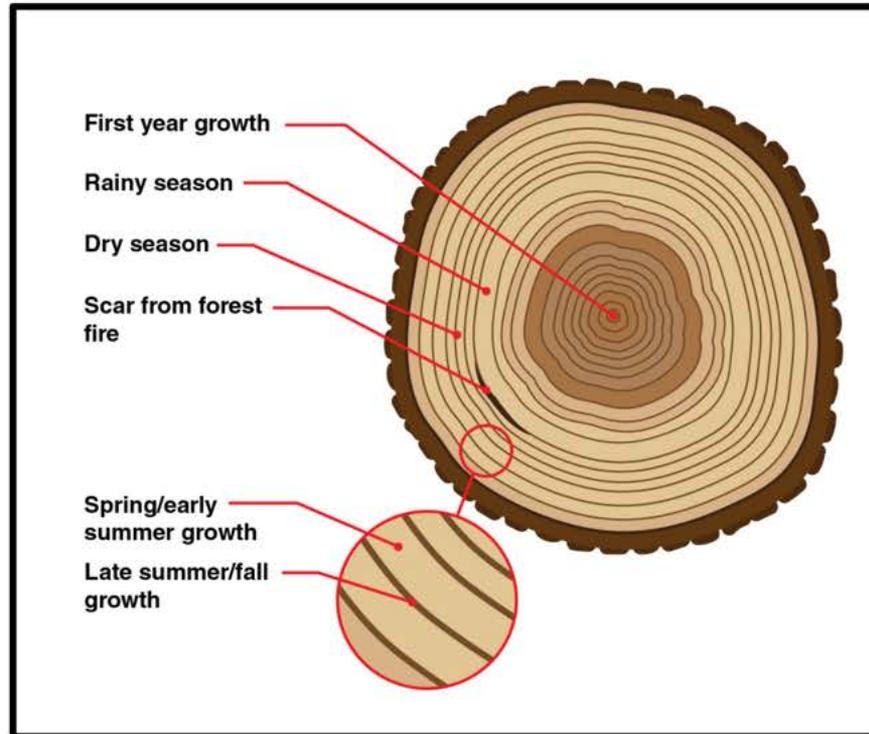
Just by reading a tree's rings, you can discover some amazing things!

Each spring and summer, a tree adds new layers of wood to its trunk. New growth in trees occurs in a layer of cells near the bark. The wood formed in spring grows fast and is lighter because it consists of large cells. In summer, growth is slower and the wood has smaller cells and is dark. Adequate moisture and a long growing season result in a wide ring, while a dry year may result in a very narrow one. The layers appear as alternating rings of light and dark wood. Count the dark rings and you'll determine a tree's age.

If you examine the shape and pattern of the rings you can learn much more. Many things can affect the way a tree grows and will alter the shape, thickness, color and uniformity of the rings. You can piece together the tree's whole history – seasons of the year, climate changes, injury from fire and insects, and even archaeological information.

This study of tree rings is called dendrochronology. The word comes from the ancient Greek words "dendron", meaning tree, and chronology, meaning the study of past events.

There is a bristlecone pine in California that is 8,600 years old and an oak tree in Germany over 5,000 years old.

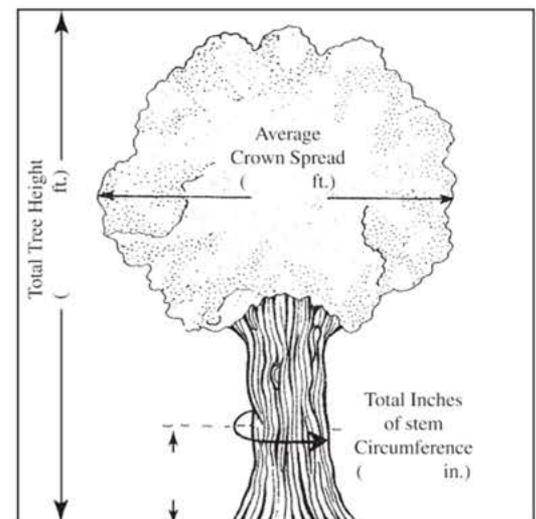
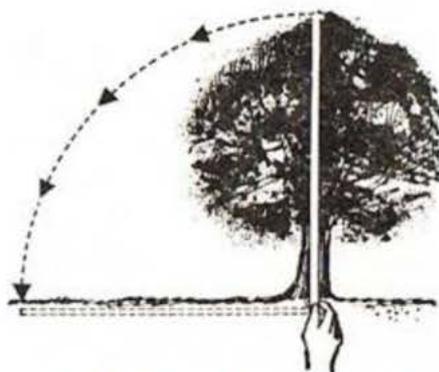


Based on the information given, how old do you think this tree was?

_____ years

The National Register of Big Trees is a list of the largest recorded living examples of each tree variety found in the United States. A tree on this list is called a National Champion Tree. Currently, there are 12 National Champion tree in Ohio. At one time Montgomery had the largest shingle oak in the world. The over 300 year old tree was knocked down in a storm in 1972.

The circumference of a tree is measured 4 ½ feet above the ground. The height and width are also measured. To estimate the height of a tree, imagine it had fallen to the ground. Then measure along the ground from where the top would have fallen to the base of the tree. Some people use a stick or their hand and thumb to help estimate.



How many kids are needed to circle around this Weller Park Maple tree?

These are the most common trees found in Montgomery Parks.

Can you find the underlined trees and park names in the puzzle below?

PARK NAMES

Montgomery
Swaim
Pioneer

Dulle
Weller
Pfeiffer

EVERGREEN TREES

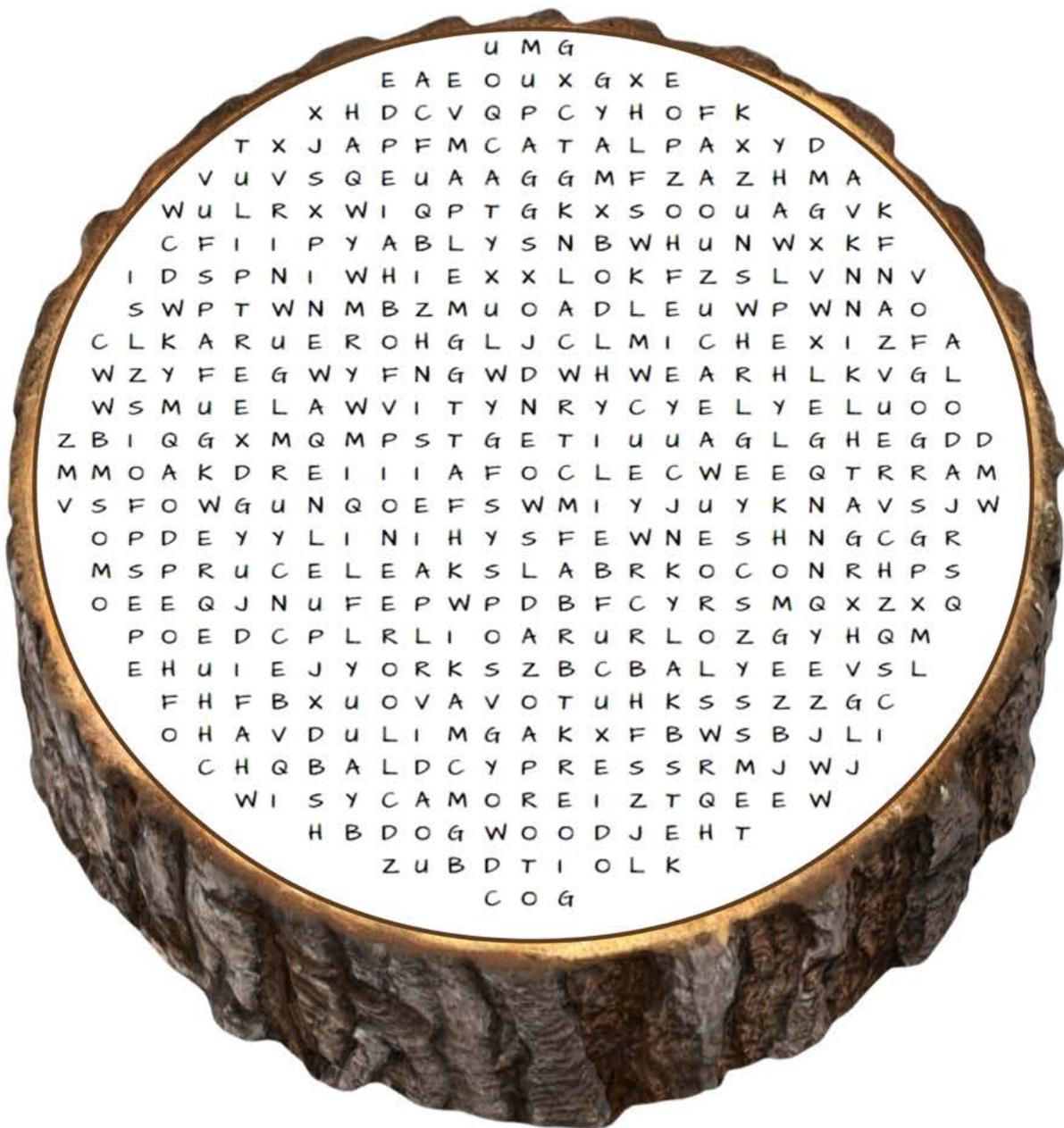
Pine
Eastern Pine
Limber Pine
Spruce

Blue Spruce
Norway Spruce
Hemlock
Magnolia

DECIDUOUS TREES

Ash
Baldcypress
Beech
Black Cherry
Black Gum
Black Walnut
Buckeye
Catalpa
Dogwood
Elm
Hackberry
Hickory
Locust
Maple
Red Maple
Silver Maple
Autumn Blaze Maple

Oak
Northern Red Oak
Pin Oak
Sawtooth Oak
White Oak
Swamp White Oak
Chestnut Oak
Chinquapin Oak
Pear, Ornamental
Eastern Redbud
Forest Pansy
Redbud
Sassafrass
Sweet Gum
Sycamore
Tuliptree



BLUE SPRUCE

Evergreen or Deciduous plants?

An evergreen is a plant that has foliage (leaves or needles) throughout the year that are always green. Evergreen trees do lose leaves, but each tree loses its leaves gradually and not all at once.

Deciduous plants completely lose their foliage during the winter or dry seasons. The term deciduous means "the dropping of a part that is no longer needed". In humans, our baby teeth are called deciduous teeth.

Invasive Species

Invasive plants, are plants that tend to spread undesirably or harmfully.

Amur Honeysuckle (Lonicera maackii)

Honeysuckle is an invasive plant that forms dense growths that shade out native young trees, shrubs and wild flowers. It originated in the Amur River area of China and Russia and was brought to America in 1855 as an ornamental shrub. Since 2009 the City of Montgomery has been gradually removing honeysuckle from its parks and roadways.



Callery Pear (Pyrus calleryana)

The beautiful trees along Montgomery Road in the historic district are callery pears. They also were brought from China as ornamental trees and by 1950 were being planted in landscapes everywhere. This tree is extremely fast growing and birds spread its seeds. Callery pear grows so thickly that it pushes out and shades out native vegetation and native tree seedlings. In 2018, callery pear was officially placed on Ohio's list of invasive species.

INVASIVE PESTS & DISEASES

Three major invasive pest attacks on U.S. trees began with the Chestnut Blight fungus in the early 1900's, the Dutch Elm Disease fungus in the 1930's and the Emerald Ash Borer first detected in Ohio in 2003. Prior to the borer, 10% of the trees in Ohio were Ash trees. Since then, 85% of the Ash trees in Ohio and Hamilton County have been killed. All of these diseases came from Asia or Europe and killed North American trees which had no natural immunity or defenses.

Emerald Ash Borer



Even today, more diseases and pests are headed toward Montgomery. The European gypsy moth (*Lymantria dispar*) is an invasive moth that has moved into Ohio from Pennsylvania and Michigan. In its caterpillar stage, it feeds on the leaves of over 300 different trees and shrubs and is especially fond of oak. A healthy tree can usually withstand only two years of losing its leaves before it is permanently damaged or dies. In 2014 the first few gypsy moths were found in Hamilton County.

As mentioned in the American beech section of our workbook, a new disease called "beech leaf disease" has been found in Ohio and is killing beech trees in northeastern counties. There is no known cause or cure.

POISON IVY & VIRGINIA CREEPER

The wooded areas of Montgomery have two common invasive vines - Poison Ivy with three leaves and Virginia Creeper with five leaves. All parts of the poison ivy plant have an oil called urushiol that can cause allergic rashes and blisters in 85% of people. Poison Oak and Poison Sumac are not normally found in this part of Ohio. Virginia Creeper is safe to touch.

The best way to not get poison ivy is to learn to avoid it. "Leaves of three - Let it be." Poison ivy usually does not grow in open fields or deep in forests. It is found most often at the edge of wooded areas, on the ground and climbing up trees and fences. The center leaf is usually slightly larger and on a short stem. The two side leaves have a smoother inner edge and a reddish stem base. White berries may also be present.





Montgomery Park

10101 Montgomery Road
6 Acres

ASH TREES (*Fraxinus*)



Ash trees are one of the most common native trees in the eastern United States where they are also frequently planted as street or landscaping trees. In 2007 there were over 555 ash trees in our Montgomery parks and greenspaces.

Ash leaves are "compound", meaning leaflets are arranged in rows on opposite sides of the central stem of the leaf. White and green ash leaves typically have 5 to 9 leaflets, while blue ash leaves typically have 7 to 11 leaflets.

In 2002, an Asian insect called the Emerald Ash Borer was detected in Michigan. The borer kills ash trees by boring holes in the tree's sap and food system. By 2013 most untreated ash trees in Montgomery were dead or dying. In 2013 we removed 30 large dead ash trees in Montgomery Park alone. Some trees along the brick walkway near the play area were treated with insecticides and thus far they are partially surviving but may need regular treatments.

SHAGBARK HICKORY (*Carya ovata*)

As you enter the brick walkway in Montgomery Park, on the left is a large grove of mature Shagbark hickory trees. These trees are part of the Walnut family and, along with a cousin the Black walnut, they can be found in most parts of Montgomery.

The most distinctive feature of this tree is its shaggy bark, along with piles of hickory nut shells that litter the ground under the trees. The large nuts are edible and are a feast for squirrels and other animals. Several barbecue restaurants use hickory wood to smoke their meats.

All hickory trees have compound leaves with an odd number of leaflets. The shagbark hickory has the fewest leaflets - five. A cousin, the shellbark hickory has seven and black walnuts have 11 to 23 leaflets. In the valley on the north side of the park, just past the playground, there are many large black walnut trees.



QUESTIONS

- 1) What very large tree is closest (2 feet) to the playground? _____
- 2) Can you estimate the height of the large-leaved catalpa tree next to the playground? _____ ft.
(Reference "Tree Ring" page for assistance.)



Pfeiffer Park

10391 Montgomery Road

WHITE PINE (*Pinus strobus*)



The Eastern White Pine is easy to identify. It has long thin needles in clusters of five. They appear to be evergreens but the needles are shed 18 months after they first appear. Branches are spaced about every 18 inches on the trunk with 5-6 branches appearing like spokes on a wagon wheel.

Old growth Eastern White Pines are the tallest trees in eastern North America, sometimes living 200-400 years. In colonial times, they were used for lumber and masts for sailing ships. The king of England would have his ship builders mark the tallest and best trees as property of his Royal Navy. In 1772 this actually caused a small rebellion called the Pine Tree Riot (an act of defiance).

Eastern white pine needles have more Vitamin C than lemons or oranges and can be used for herbal tea. Native Americans would use the sap to make medicines and the inner bark to make flour for bread.

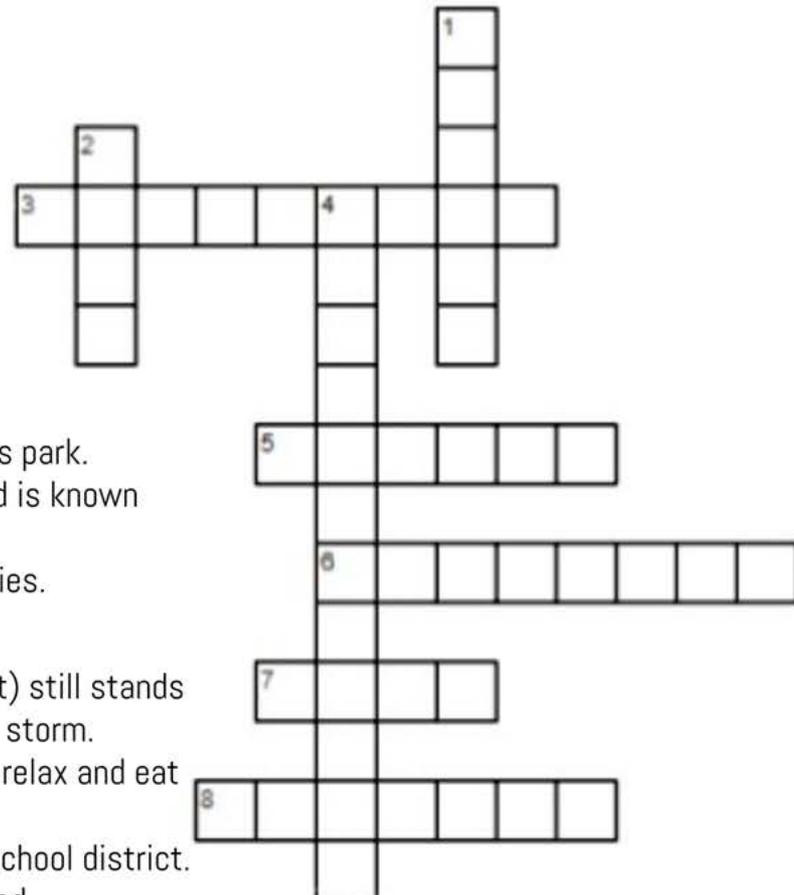
NORWAY SPRUCE (*Picea abies*)



The Norway or European Spruce is a fast growing evergreen that can grow three feet a year. The dark green needles are 1/2 to 1 inch long with 3-6 inch seed cones in the fall. The branchlets tend to hang downwards in a weeping manner.

They are planted for forestry, wood and paper production. Some of the oldest are several thousand years old. They are often grown for Christmas trees but they do not hold their needles long after being cut.

Complete the crossword puzzle below.



DOWN

1. This sport is played on the courts in this park.
2. This tree is located near the gazebo and is known for its needle like leaves.
4. This tree is also known as the Picea Abies.

ACROSS

3. This Norway Spruce (pictured to the left) still stands strong after it was struck by this during a storm.
5. This white structure provides a spot to relax and eat lunch.
6. This tree is also the name of our local school district.
7. True or False - This park has a playground.
8. A sculpture at this park features this.





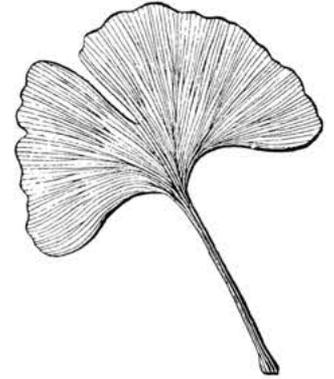
Pioneer Park

10505 Deerfield Road
20 Acres

GINGKO (*Gingko biloba*)

Gingko biloba is an unusual tree with an easily recognized fan-shaped leaf. Gingko leaves have been found in fossils in the Northern parts of the world that are 300 million years old. Scientists thought Gingkos had become extinct about seven million years ago because of cold climate changes, but it was rediscovered in China in 1691 and later brought back to America.

In China, the leaves are used in several natural medicines. There are separate male and female trees with the seed pods on the female trees in the fall. The leaves turn a bright yellow color in the fall and quickly fall off the trees after the first frost. Some ginkgo trees are known to live 1000 years. Two ginkgo trees have been planted in Pioneer Park.



BALDCYPRESS (*Taxodium distichum*)

The baldcypress is a deciduous conifer that gets the name "bald" from losing its needles during the winter months. Many people mistakenly believe this tree has died when it becomes bare. The baldcypress tree is magnificent other times of the year, with bright yellow-green leaves in the spring; it darkens in the summer to a soft sage green; in autumn it becomes a russet, soft brown to a mellow orange-brown. It is native to the southeastern states and is found especially in swamps and around lakes.

Baldcypress trees sometimes have unusual woody roots called "knees" that project above the ground or water. Scientists have not solved the purpose of these "knees". The oldest known living bald cypress in North Carolina is at

least 2,600 years old making it the oldest living tree in eastern North America. In Montgomery they can be found around Swaim Park pond, Pioneer Park pond and the Gateway Falls area.

WEeping WILLOW (*Salix Babylonica*)

Weeping willows have a distinctive appearance with their rounded, drooping branches and elongated leaves. They are among the first trees to grow leaves in the spring, among the last to lose their leaves in the fall and grow especially well near water. Long ago, the ancient Greeks and Native Americans learned that willow leaves could be used to relieve fever and pain. Later aspirin was developed from the willow tree. There is one willow tree in Pioneer Park.



QUESTION

1) What very tall white trees are found along the stream in Pioneer & Dulle Parks? _____

These trees are also located at Swaim and Pfeiffer Park.



Swaim Park

Corner of Zig Zag and Cooper Roads

13.3 Acres

CATALPA (Catalpa Speciose)

The catalpa tree is an ornamental shade tree that is native to the midwestern United States. Its heart shaped leaves are 8-12" long and are the largest leaves of any trees in Montgomery. This fast-growing tree was planted by pioneers for fence posts and railroad ties because of its resistance to rot. It's wood is soft and good for carving and in the fall, it bears fruits which resemble green beans hanging down from the branches.

Common names for this tree are many and colorful—including cigar tree, Indian bean tree, Catawba and caterpillar tree. Catalpa can be found at the Zig Zag entrance to Swaim Park, Montgomery Park and along Weller Road near Weller Park.



AMERICAN SYCAMORE (Plantanus occidentalis)



North American sycamores are native through most of the eastern United States, especially near streams and moist soil areas. They are fast growing trees that can reach a height of over 100 feet and may live 200-300 years.

When pioneers arrived in Montgomery, American sycamores were found everywhere. Our local Sycamore Township and Sycamore school system were named after this majestic tree. Sycamores are easily recognized by their tall size and white upper trunks growing most often near streams and moist areas. At one time, the largest tree in the eastern states was a Sycamore that was 42 feet around at the base.

In the 1600's, these trees were brought to Europe and crossed with oriental sycamores producing a new tree - the London plane tree. These new trees were found to be better suited to city conditions, more tolerant of pollution, more wind and cold resistant, and tolerant of severe pruning and shaping. London planes are also more resistant to the anthracnose fungus that can sometimes damage the American tree leaves. London planes are the most common street trees in major European and American cities such as London, Paris, Rome, Barcelona, New York, Philadelphia and in Cincinnati.

How to tell the difference? American Sycamores have a more white trunk and a single fruit on a stem while the London plane has a yellow-green trunk and two or more fruits on a stem. Sycamores are found in Swaim Park near the lodge and gazebo, in Pioneer and Dulle parks along the stream and in Pfeiffer Park.

QUESTIONS

1) What two trees have been planted inside the Swaim playground? _____

2) What evergreen is planted at the entrance to the restroom? _____



Weller Park

8832 Weller Road

20 Acres

SHINGLE OAK (*Quercus imbricaria*)



Most people would not recognize a shingle oak if it was not for a small crop of acorns it produces each year. Unlike other oaks, its leaves are dark green, elongated and smooth. Leaves often remain on the tree past the fall and late into the winter and early spring. It is in the red oak family and has wood that early settlers used to make shingles for their homes. For many years,

the largest shingle oak in the world stood on Cooper Road near the center of Montgomery. In 1963 this tree was estimated to be over 300 years old with a trunk circumference of 15 feet and a height of nearly 100 feet. It was declared the largest and oldest shingle oak until it was felled by high winds in a thunderstorm in 1972. Shingle oaks are in Weller Park at the entrance and front parking lot, Johnson Nature Preserve and Pioneer Park.

Record in your journal what you noticed about the features of the trees around you at Weller.

(Ex. Their coloring, leaf shape and size, etc.)

A vertical spiral-bound notebook with white lined pages and a silver metal spiral binding on the left side.

AMERICAN BEECH (*Fagus grandifolia*)



The American beech is one of the most stately trees in eastern forests. It has an unusual smooth light gray trunk, beautiful foliage and may live several hundred years. They are one of the few trees that hold most of their dried leaves through the winter until the new spring buds.

After about forty years, trees begin producing edible seeds known as beechnuts or beech mast which is a major source of food for animals from birds to bears.

Early pioneers said that in beech forests, a person could walk right by bears that are busy eating the abundant beechnuts. Young beech leaves in the spring are edible as a salad.



QUESTIONS

1) How many young beech trees can you find near the tennis courts? _____

2) What two trees are planted in the playground?

Oak Trees - Our National Tree

The leaves of oak trees come in many sizes and shapes. There are about 90 different kinds of oak trees in North America and over 600 different kinds in the world. There are about a dozen native to Ohio. Some oaks can live to be over 1000 years old. Most oaks belong to the genus *Quercus* which is the Latin word for "oak tree".

The varieties are divided into two main categories: red oaks and white oaks. The red and white groupings are derived from the general color of the bark of mature trees. Many red oaks have leaves with pointed lobes tipped with tiny bristles. Most white oaks have leaves that are rounded and smooth. Some oak leaves have unusual shapes but all oaks can be identified by their fruit - the acorn.

All oak trees grow acorns but they have to be at least 20 to 50 years old to start producing acorns. Some oaks grow more than 2000 acorns every year, but only one in 10,000 acorns will manage to grow into an oak tree. Many insects and animals feed on acorns - pigeons, ducks, pigs, deer, bears, squirrels and mice. However, the leaves and acorns are poisonous to cattle, horses, sheep and goats.

The wood of oak trees is exceptionally strong. Viking ships were made of oak and it is used for furniture and flooring. In the 1999 Montgomery tornado, white oak trees survived the strong tornado winds. White oak wood is used for wine and whiskey barrels. Red oak wood is more porous and will not hold liquids. It is said that you can blow bubbles through a 10 inch piece of red oak wood.

White Oaks most common in Montgomery: White Oak, Swamp White Oak, Bur Oak, Chinquapin Oak

WHITE OAK



SWAMP WHITE OAK



BUR OAK



CHINQUAPIN OAK



Red Oaks most common in Montgomery: Red Oak, Pin Oak, Sawtooth Oak, Shingle Oak

RED OAK



PIN OAK



SAWTOOTH OAK

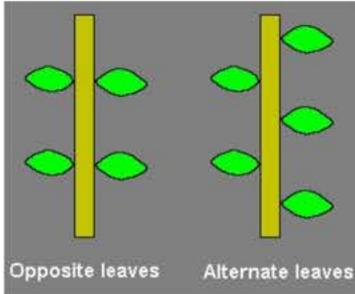


SHINGLE OAK



Maple Trees

MAPLES



A maple leaf is featured on the national flag of Canada. Maples belong to the genus *Acer*, the Latin word for Maple tree, with over 100 species.

They typically have beautiful autumn red, orange and yellow foliage and are often planted in lawns, along streets and in parks. In the spring, maple sap has a sweet taste and maple trees, especially sugar maples, are tapped to make maple syrup. Maple wood is used for basketball courts, bowling alleys and baseball bats.

Maple leaves are a single broadleaf and most are arranged oppositely on twigs. All maples bear winged seeds called samaras that twirl to the ground when ripe. The shape of a samara can determine how far it travels by wind power. Children commonly call these seeds "helicopters" or "whirligigs".

RED MAPLE



Red Maple is the most common tree in North America. Its common name comes from the brilliant red foliage that becomes the focal point of fall landscapes.

Red maple are planted in most of our parks and parts of the street median of northern Montgomery Road. Red Sunset and Autumn Blaze are two favorites.

SILVER MAPLE



Silver maple are a native tree that is found in many older suburbs. Like pin oaks, it grows fast and tolerates many different soils. In many towns they were planted by developers and landscapers only to later find there were problem traits. It has shallow roots, cracks sidewalks, invades old drain pipes and its brittle wood often breaks in storms.

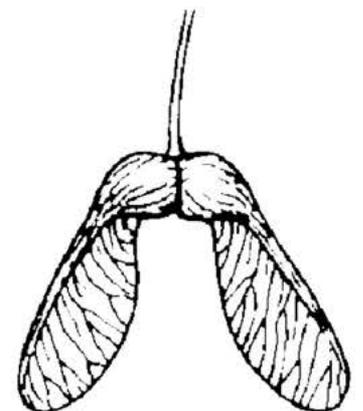
The leaves have deep notches, light silvery undersides and its samara has more of a "coat hanger" shape.

SUGAR MAPLE



Sugar maple trees can be found in all parts of Montgomery. In the spring, sugar maple forests are tapped to collect sap. Forty gallons of sugar maple sap are then cooked to make one gallon of maple syrup.

The fall leaf color is spectacular with bright yellow, orange and red colors. The "U" shape samaras with pea shaped seeds help to identify this tree.



Parts of a tree

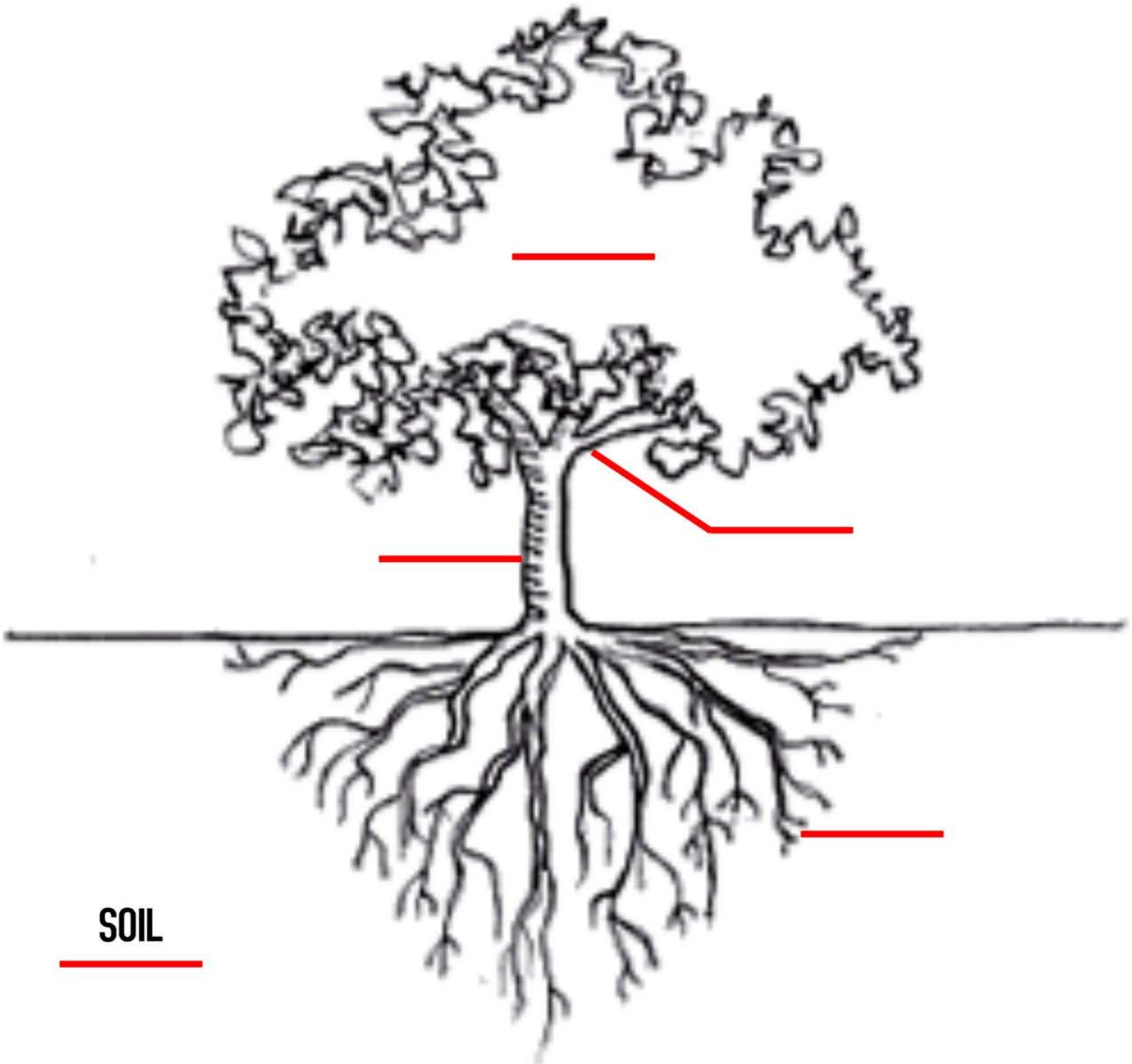
Color in the image of the tree below.
Can you label the different parts of the tree? Using the words in bold, fill in the blank the different parts of the tree.

ROOTS

BRANCH

LEAVES

TRUNK



SOIL

Additional Native Montgomery Tree

BLACK CHERRY



Wild black cherry is a fast-growing woodland tree in all of Ohio. Its beautiful, fine-grained, orange-brown heartwood is used for making furniture. Its small fruits are relished by birds and mammals as a food source in late summer. Wild cherry syrup is obtained from the bark, and jelly and wine are prepared from the fruit.

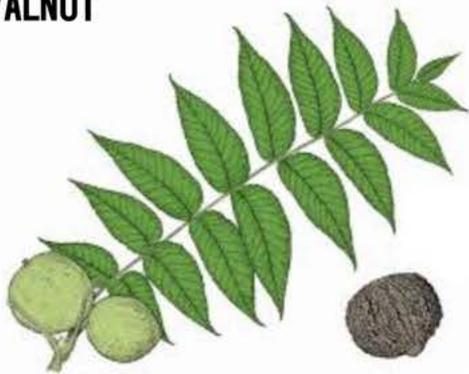
While the fruit is edible and used in beverages and cooking, the rest of the plant contains toxins if eaten.

BLACK GUM



Black gum trees are native to all of Ohio. It is sometimes also known as the tupelo or sour gum. Its small sour fruits ripen early before other fall berries and are a food for many birds and animals. The trees have a beautiful shape and reddish fall color and are often planted as ornamentals.

BLACK WALNUT



Black walnut wood is a beautiful deep brown color and is especially valuable for its many furniture and decorative uses. Shelled black walnuts are edible by humans and are used in cooking, baking and ice cream. The trees are spread by squirrels who bury the nuts. Leaves may have 15-23 leaflets. Black walnut tree roots release a chemical that may harm nearby garden plants and grasses

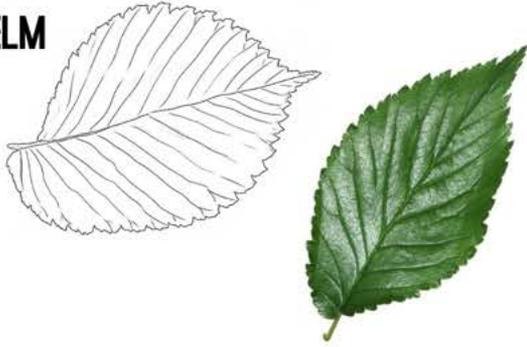
DOGWOOD



There are over 50 different species of flowering dogwood both in the US and throughout the world. The flowers can be white, pink, purple or yellow. Many birds and animals feed on the berries. The wood is very hard and used for musical instruments and golf clubs. A particular species discovered in Cincinnati's Spring Grove cemetery flowers more abundantly than most and is especially winter hardy.

Additional Native Montgomery Tree

ELM



American Elm was once a stately and magnificent tree that lined America's city streets. Over the years most have died from the Dutch Elm disease, a fungus spread by the elm bark beetle. Young trees are not affected until they reach an older age.

Elm trees have oval-shaped leaves with saw-toothed edges and are pointy at the end and the base of most Elm leaves are not symmetrical. Elm's beautiful wood grain is used for fine furniture and it works well for cutting boards because it has no odor or taste and it won't split.

HACKBERRY



Hackberry trees are most easily recognized by growths on their leaves called galls. These are caused by the Hackberry Psyllid insect. The psyllids lay eggs on the leaves causing growths or galls around the eggs.

The galls usually do not cause serious damage but they make hackberry leaves appear diseased.

LOCUST



The honey locust, also known as the thorny locust, is native to central North America where it is found in the moist soil of river valleys including our Sycamore Creek. The branches and trunks have large 2-6 inch thorns and the plants are considered invasive.

A thornless variety is extensively planted in Montgomery as an ornamental tree. The small leaflets scatter filtered light and turn a golden yellow in the fall.

MAGNOLIA



Magnolias are some of our most elegant and ornamental trees. Native magnolias may be either deciduous or evergreen. The evergreen *Magnolia grandiflora* has waxy smooth green leaves and fragrant creamy-white flowers about 8 inches across. Blossoms open each morning and close at night for much of the summer.

In deciduous magnolias, the spring blossoms appear before the leaves and are often damaged by late frosts. Blossoms can be pink, white, red, purple or yellow. Magnolia flowers are usually pollinated by beetles.

SWEET GUM



Sweet-gum is known for its unique five-point star-shaped leaves with outstanding yellow, red, and purple fall color. They are beautiful trees with one major problem - the seed balls. They have a woody structure and drop from the trees in great numbers making a huge mess that is difficult to walk on.

Completion

As you explore the trees around you, collect different leaves that you find. In the box below, place the leaf behind the paper and rub a crayon over the box to reveal the features of the leaves.

Child's Name

Child's Age

Phone Number

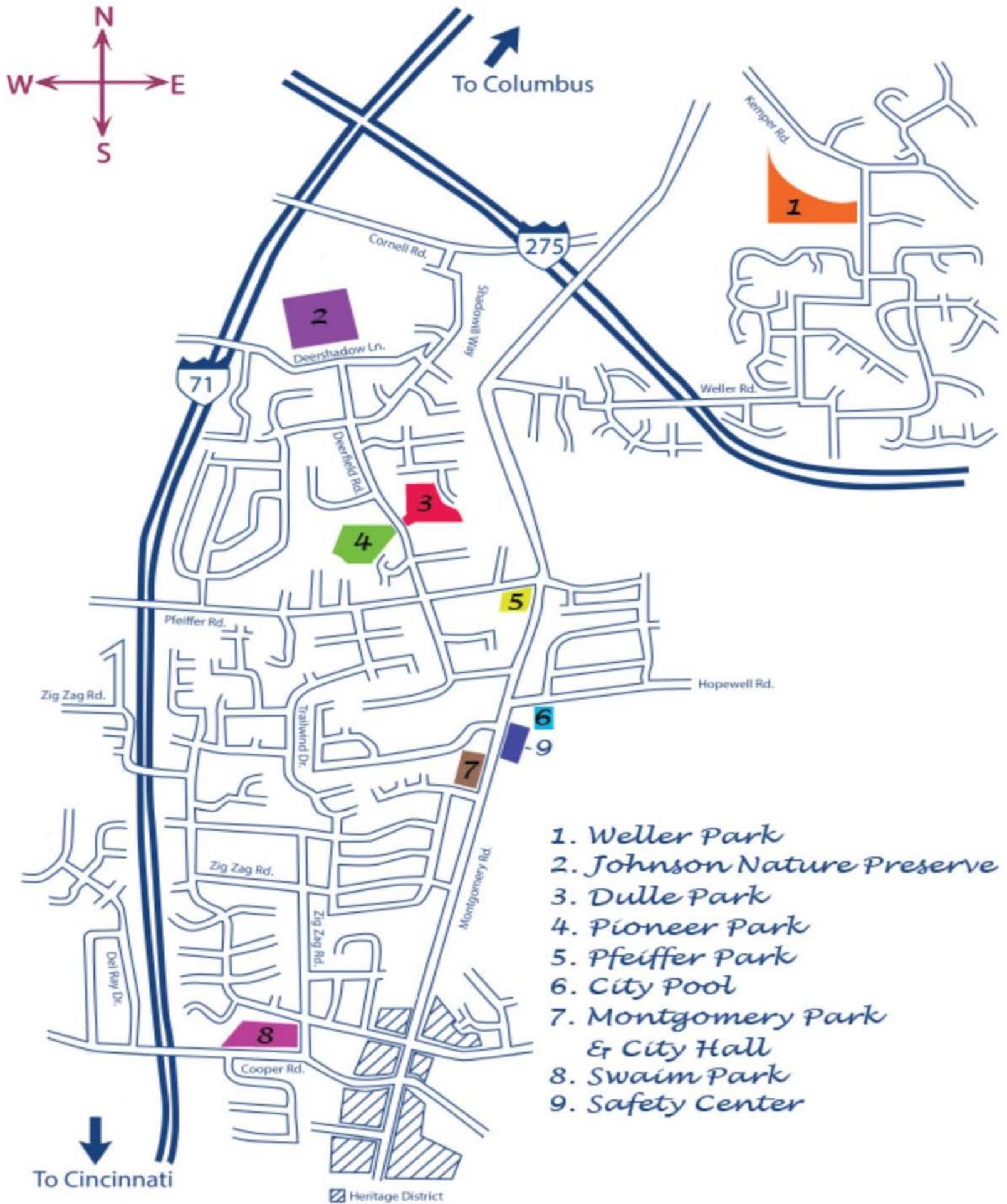
Email Address

Bring your completed workbook to City Hall. City Hall is located at 10101 Montgomery Road, Montgomery, Ohio 45242. A member of our recreation team will review the workbook and call you when your certificate and badge is ready. Your completed workbook will be given back to you to keep with your certificate and badge.

Recreation Staff Signature

Date

Montgomery Parks Map



1. Weller Park
2. Johnson Nature Preserve
3. Dulle Park
4. Pioneer Park
5. Pfeiffer Park
6. City Pool
7. Montgomery Park & City Hall
8. Swaim Park
9. Safety Center