

Join today...
visit free!

membership

Membership is your passport to visitation all year long. If you did not have a chance to visit all of the Tree Adventure stations today, simply return with your passport and complete your journey any time. Membership information is available at the Visitor Center or at www.morrisarboretum.org.

group visits and tours

We welcome bus groups, group tours and school groups by appointment only. To schedule a group visit or learn about tour programs and themes, call 215-247-5777 ext. 157.

hours

Weekdays: 10am-4pm
10am-8pm Thursdays in
June, July & August

Weekends: 10am-5pm (April-October),
10am-4pm (November-March)

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Morris Arboretum of the
University of Pennsylvania
treeadventure

100 E. Northwestern Avenue
Philadelphia, PA 19118
www.morrisarboretum.org



Morris Arboretum of the University of Pennsylvania treeadventure



welcome

Type

Arboretum Traveler

Code of Issuing State

Pennsylvania

Given Name

Date of Birth

Sex

your picture here

Date of Issue

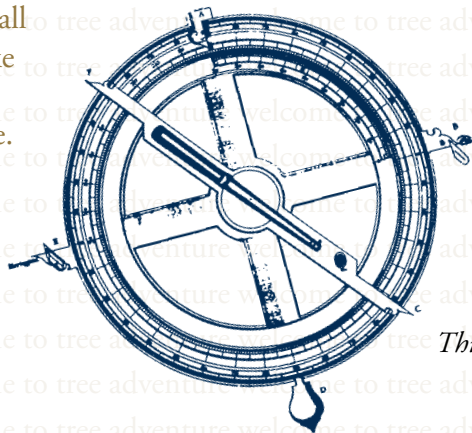
Date of Completion

Authority

Morris Arboretum

Pick up your prize

Once you have completed all the Passport activities, make sure you stop by the Shop to receive your special prize.



WELCOME TO TREE ADVENTURE!

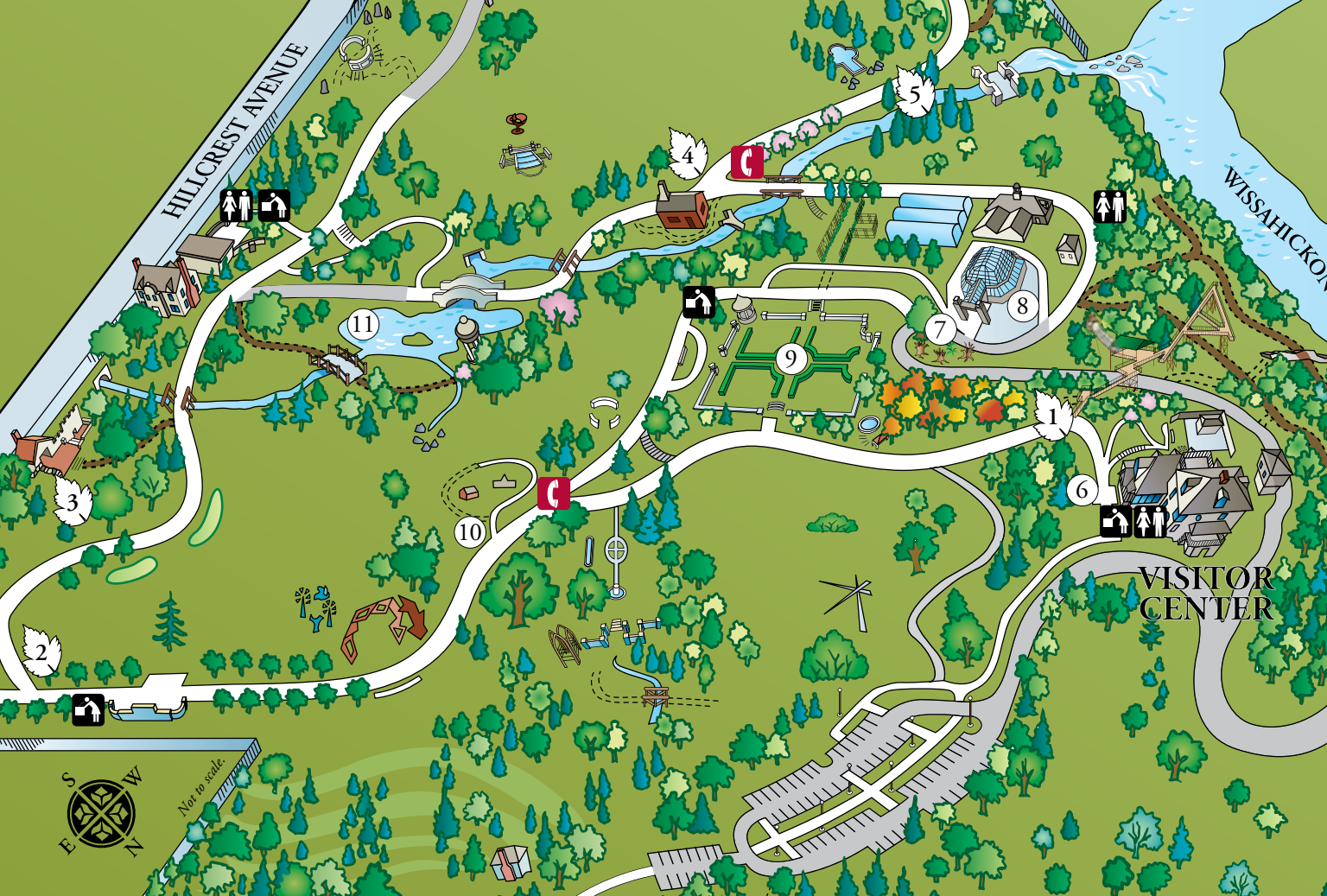
The Tree Adventure Exhibit helps us understand the relationship between plants and people. Activities at the different Tree Adventure stations offer exciting ways to engage with trees.

1. Scramble like a squirrel for a bird's eye view of the forest floor on *Out on a Limb*
2. Test your math skills at the Oak Allée
3. Meet the living fossils in the Dawn Redwood Grove
4. Step back in time at the Log Cabin
5. Compare nature's temperatures by the Springhouse

Stop along the way to notice the details – leaf color in fall, bark textures in winter, blossoms in spring, and the fragrant flowers of summer.

We hope you have fun on *your* Tree Adventure and remember, ***we need trees and trees need us!***

This Passport supported by _____



Key to treeadventure

Travel to all five stations of Tree Adventure and explore your interdependence with trees!

- 1 **Out on a Limb:** This canopy walk will let you scramble around at heights of over 40 feet!
- 2 **Oak Allee:** This tree-lined walkway is a great place to learn about root growth and functions.
- 3 **Springhouse:** Here, you can check nature's temperature and escape the summer heat.
- 4 **Log Cabin:** One of Lydia Morris's favorite retreats that reminds us that trees can also be homes.
- 5 **Dawn Redwoods:** This grove of living fossil trees exists today because of plant explorers.

- 6 Visitor Center & Shop
- 7 Stumpery
- 8 Fernery
- 9 Rose Garden
- 10 Garden Railway
- 11 Swan Pond

- Restrooms
- Water Fountains
- Emergency Phone
- Accessible Paths
- Other Paved Paths
- Unpaved Paths



**Morris Arboretum of the
University of Pennsylvania**

Official arboretum of the Commonwealth of Pennsylvania

Out on a Limb

ADVENTURE



Did you know that it takes thirty trees to produce enough oxygen for one person every year? Go *Out on a Limb* and enjoy the fresh air from high in the sky. Use all your senses as you scramble around at heights rarely experienced by people. Imagine how long it must have taken to build a nest with just a beak. See how trees work from the inside out and even “read” nearly 250 years of history in the rings of an old oak tree that is still very much alive!

BIRD SEARCH

How many birds can you see from the nest? Do you know what they are? See how well you know Pennsylvania’s birds and figure out the clues below. Then try to find the answers hidden in the egg.

A common red bird

Thanksgiving bird

“Great Blue” bird

A bird that hoots

PA’s state bird

The smallest bird

Our national bird

A bird that quacks

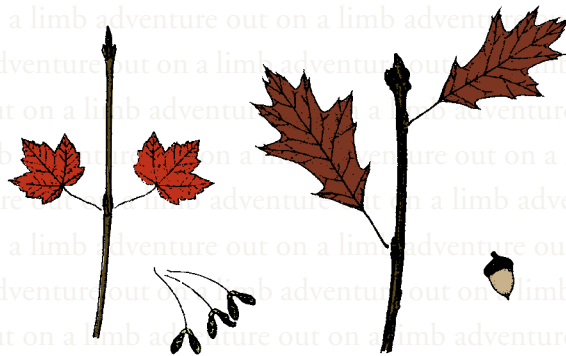
M H K O R U
W C A R D I N A L O
G H J M K L L J N T F V U
R B R G P D G R O U S E Y N J
N U I M B G R T F W V N L P P A
S F T K O L D I O O W L O K C H
Y K P H E R O N M K E R S W M O
P Y M P E A N S W A D U C K T H E
R W N K E T U R K E Y K H Q C X
E Z I P M V G T H U M M C A D
R H I H U M M I N G B I R D
H D S R W I Q E A G L E O
L W J L O T H R O S F
N M Q I O F L

CAN YOU SPOT THE DIFFERENCES?

Oaks and maples are common, but very different trees.

On the left is a red maple and on the right is a red oak.

Can you spot and circle three major differences?



As you walk around, explore other trees—what differences can you find from tree to tree?

TEST YOUR SENSES

Some bears can smell food from 40 miles away! The Rose Garden is close, can you smell the roses? What *can* you smell?

A hawk can see a mouse from a mile away! So what’s the smallest thing you see? What can you see if you use the binoculars?

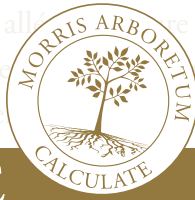
Different birds sing different songs. Can you hear the difference? Can you whistle the songs of the songbirds?

After you finish these activities,
STAMP YOUR PASSPORT

The above botanical drawings are by Anna Anisko from The Plants of Pennsylvania, An Illustrated Manual; used with the permission of University of Pennsylvania Press.

Oak Allée

ADVENTURE

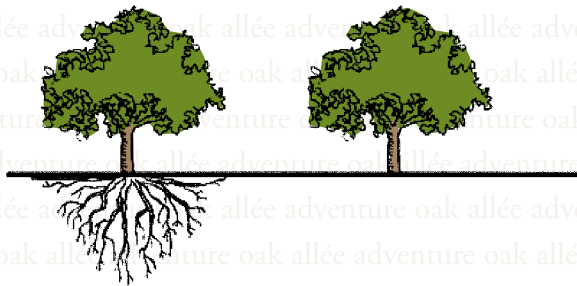


Allée (à la') French for a tree lined walkway

Once an entrance to the property, this oak-lined allée is a great place to learn about roots. You'll read about how roots work, how they grow, and what they do for trees. Don't forget to stop by the Stumpery for an even closer look into the world of roots. The stumps represent the "hub" of activity in trees as the water and nutrients gathered by the roots are sent up through the trunk to the leaves where food is made. This food, in the form of sugar, flows back down the trunk to the roots and the incredible, life-sustaining cycle continues on.

WHAT'S WRONG WITH THIS PICTURE?

After reading about roots and how they grow, can you spot some problems with the drawing on the left? Can you draw what a tree's roots *really* look like on the tree on the right?



So, what is wrong with the drawing on the left?

1. _____
2. _____

DON'T BE A PUSHOVER!

A tree's roots spread out and help keep the tree from falling over. To see how this works, find a partner and:

- ~ Ask them to stand with their feet together and see how hard it is to push them over (gently of course). Then...
- ~ Ask them to spread their feet apart and see how hard it is to push them over.

Can you tell the difference? Which do you think represents the way roots anchor the tree?

MULTIPLICATION MASTER

Think about this, a tree's roots grow really fast when it is young and gradually slow down as it grows old. Assume that tree roots grow 2 feet per year for their first 20 years and 1.5 feet per year after that and calculate the following:

- ~ If a tree is **your age**, how far do its roots spread?
- ~ If a tree is **20 years old**, how far do its roots spread?
- ~ If a tree is **50 years old**, how far do its roots spread?

How far do *these* roots spread?

Most of the trees in the Allée were planted in 1994, so using the information above, calculate how far the roots spread right now and pace it off. Consider one pace is about three feet.

After you finish these activities,
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Springhouse ADVENTURE



WHAT IS A SPRINGHOUSE?

Use the panel to help you fill in the blanks:

- ~ Springhouses were used to cool _____ products.
- ~ The workroom was used to churn _____ and separate _____.
- ~ _____ cans and other jugs were set inside to keep cool.

Another remnant of the past, the Springhouse represents a historical use of water, not for milling or drinking, but for preserving food. Though now obsolete, it remains a symbol of early America and might be thought of as the “coolest” place in the Arboretum. Just how cool is it? Check its temperature and compare it to other nearby locations. Step inside to escape the summer heat, or even the winter chill, and imagine what might have been stored here over a century ago. Find out how it works, why the temperature is so constant, and how trees contribute to its success.

HOW COOL IS IT?

Step inside the Springhouse to feel how cool it is. In the middle column, write down what you think the temperature is at different nearby locations. Then, find the panel with the actual temperature readings from each location and see how close your estimates were.

Record the Temperatures

	My Guess	Actual Reading
In Springhouse		
In Ground		
In Water		
In Shade		
In Sun (grass)		
In Sun (blacktop)		
In Tree		

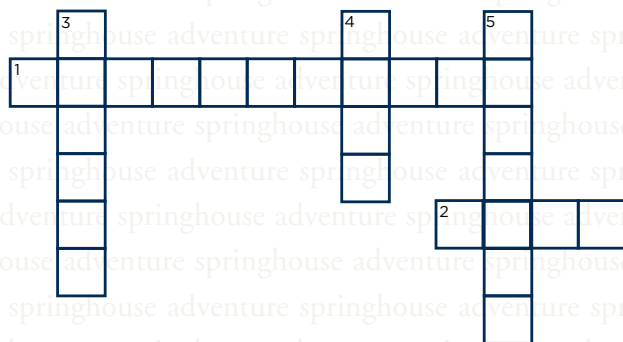
SPRINGHOUSE CROSSWORD

Across

1. Name of the building
2. It kept things...

Down

3. What runs beneath it
4. What was kept in it
5. Big tree beside it



After you finish these activities,
STAMP YOUR PASSPORT

Log Cabin ADVENTURE

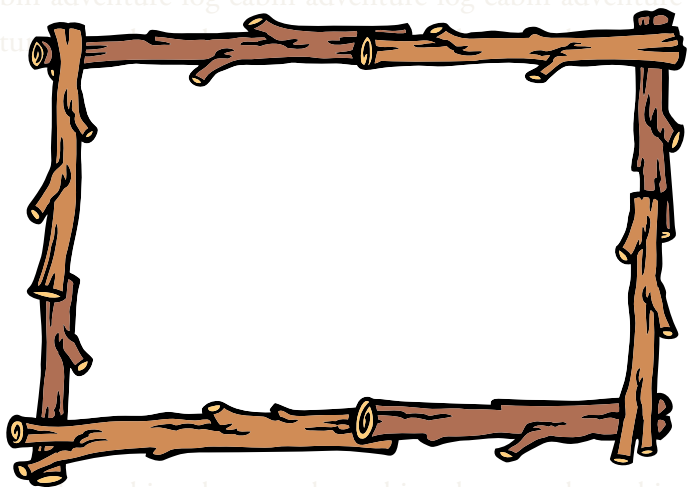


All kinds of animals depend on trees to build their homes, keep warm, find and store food, and raise their families.

The Log Cabin is a perfect example of how people rely on trees to provide these same things. Tucked away in a lush gully, a visit to the Log Cabin is like a step back in time – a reminder of a bygone era. Although no one lived in it, the Log Cabin was one of Lydia Morris's favorite garden retreats and is sure to become one of yours. Stop in where the scent of the fireplace still lingers; see the historical photos and read the stories, relax on the porch, and enjoy the sights and sounds around you.

WHO'S LIVING IN THAT TREE?

Look around for signs of life. Can you see bees on the flowers, birds in the trees, or bugs on the leaves? Do you see some animals on some trees that you don't see on others? Make a sketch below of the insects, birds and other creatures you spot.



Log Cabin Adventure supported by Pamela and James Hill

LOG CABIN PRESIDENTS

Log cabins were once a symbol of tough pioneer life. Presidents who were born in them were considered “men of the people.” Use the binder inside the Log Cabin to help you unscramble their names below.

CANSJKO _____

ICLNONL _____

RILFMLEO _____

LOKP _____

YTLARO _____

So, why do you think people liked “log cabin presidents?”

WHICH WOOD WOULD YOU USE?

Find the stack of different logs in the Cabin. Pick them up and examine them closely. Logs from some trees are heavy and hard and logs from others are light and soft. So if you were building a log cabin, which of these types of wood would you use? And, why would you choose that wood? (Remember, there are no right or wrong answers)

I would choose _____

After you finish these activities,
STAMP YOUR PASSPORT

Dawn Redwoods

ADVENTURE



THINK ABOUT IT

The trees in this grove have grown very large, very fast. In fact, some are quite a bit larger than the two dawn redwoods by the Swan Pond even though they are about the same age. Look around; can you think of any reasons this has happened?

While there are several rare and unusual plants at the Arboretum, few are as storied and awe-inspiring as those in the Dawn Redwood Grove. Once common across North America, these trees were thought to have become extinct nearly two million years ago. Today, they exist because of the efforts of early plant explorers. On the panel, you can read their story of discovery and redistribution and learn why the dawn redwoods are often referred to as “living fossils.” This grove includes some of the oldest and largest dawn redwoods in the country. See for yourself just how large they’ve grown.

USE YOUR IMAGINATION

Find the panel that explains how to measure the height of these trees. Then, figure out how tall one of the smaller ones is. What do you come up with?



The small tree is _____ feet tall

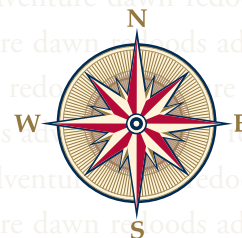
If the small tree is that tall, how tall do you think the biggest trees are? And, did you know the dawn redwood is a cousin of the coast redwoods, the tallest trees in the world?

The tallest coast redwood is nearly 380 feet tall! Can you imagine that tree growing in this grove? Can you picture how high it would reach?

USE THE COMPASS

Early plant explorers didn’t have today’s technology. To find where they were going, they used a compass. So, use the compass and grid below to fill in the blanks. The numbers represent the number of spaces to move and the N, E, S, and W represent direction. For example, 1 N means move up one space, and 2 W and 3 S means go left 2 spaces and down 3. Always start from the preceding letter.

A	F	K	P	U
B	G	L	Q	V
C	H	M	R	W
D	I	N	S	X
E	J	O	T	Y



start here >

P

$\frac{1S}{1W}$ $\frac{2W}{1N}$ $\frac{3S}{2E}$ $\frac{1S}{1E}$

$\frac{3W}{4E}$ $\frac{1N}{1W}$ $\frac{3N}{1S}$ $\frac{1W}{1S}$ $\frac{3S}{2N}$ $\frac{1E}{2S}$ $\frac{3W}{2S}$ $\frac{2N}{3E}$

(Hint: He/She searches for rare plants)

After you finish these activities,
STAMP YOUR PASSPORT