



# Trees and Forests with Liberty Hall Museum

## Study the trees of your neighborhood!

Trees and forests serve an important role in our ecosystems; become an environmentalist, a scientist, a mathematician, a writer, or even an artist, and let's explore some trees together! Find a tree in your yard or your neighborhood and learn about the importance of trees in your life.

### Why are trees important?

- Remove Carbon Dioxide
- Reduce erosion
- Prevent flooding
- Make fruit to eat or sell
- Add oxygen to the atmosphere
- Naturally cool homes and buildings
- Provide ingredients for medicines



Can you think of other reasons that trees are important? List them below:

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## Meet the Trees in Liberty Hall's Backyard!

Liberty Hall Museum is home to hundreds of trees! Trees are a vital part of the world's ecosystem; they protect us, provide for us, and have witnessed thousands of years of history. Imagine all the stories a tree could tell if it could speak. Many of the trees at Liberty Hall are hundreds of years old and have stood as silent witnesses to important historical events.

Here are three of our favorite trees at Liberty Hall Museum:

### The oldest in our forest:



*Dear friends,*

I am the Horse Chestnut Tree! I am one of the oldest trees on the property. I was planted in 1770 by Susan Livingston, the daughter of William Livingston. I was planted before Liberty Hall was even built! Today I stand in the front driveway. Hundreds of people take pictures of me every year! I have seen 250 years of history. Can you name some important historical events that I have witnessed?

*-Horse Chestnut Tree*

## A Good Cup of 'Joe:



**HoWdy!**

I am the Kentucky Coffee Tree!  
That's right, coffee is a part of my name. While I do not produce any coffee beans, my seeds can be roasted and made into a caffeine-free coffee substitute! Maybe they should call me the Kentucky Decaf-Coffee Tree! What a "Tree-*t*!" *Wood* you like to try that? Next time I make some, I'll just have to *leaf* some out for you to try! Did you see what I did there? I am always cracking myself up! But seriously, the seeds from my tree are also poisonous if they are not properly roasted! I am over 100 years old.

What history have I stood witness to?

**-Kentucky Coffee Tree**

## Is that an Elephant?:

Hello,

I am the European Beech Tree. People say my trunk looks like an elephant's foot because it is very wide and my bark is bumpy, like elephant skin. I don't think that's very nice of them; you'll have to come and see for yourself someday! I am very proud of my wide trunk because it means I can grow very tall with large branches. In fact, I am 107 feet tall—the largest European Beech reported in Union County and 4th largest reported in New Jersey. With all my height, what history have I seen?

--European Beech Tree



# Liberty Hall has a long history of caring for trees!

The people who lived at Liberty Hall understood the importance of trees. When William Livingston built the house, he also purchased multiple varieties of fruit trees, including apple trees. The trees helped him in a variety of ways: they provided fruit he and his family could eat or sell, the apples would have made tasty cider, and the trees provided shade. Liberty Hall today still has apple trees. In the fall, visitors can come and pick apples from our historically inspired trees!

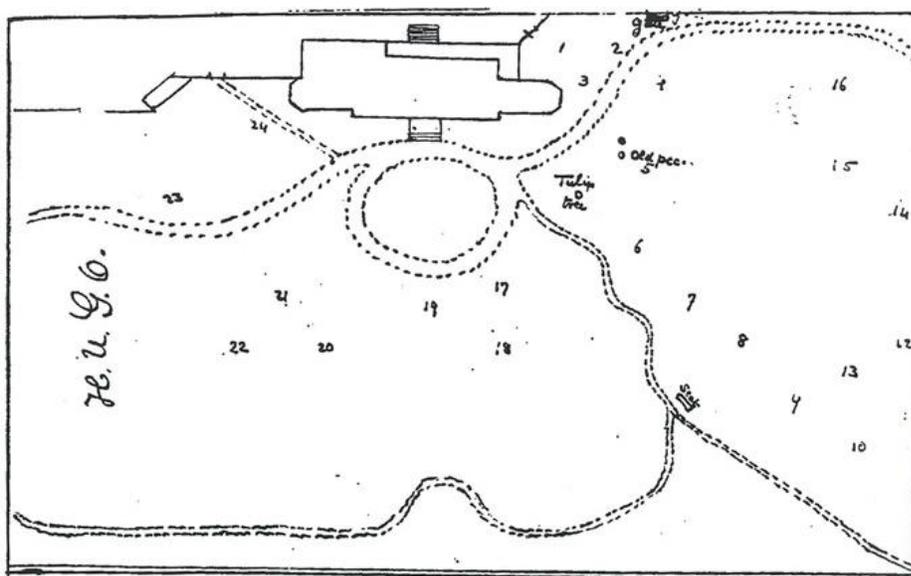


Apple trees at Liberty Hall Museum. They are dormant right now, but they produce fruit almost every year!



The end of the Serpentine Path at Liberty Hall Museum.

Even after the Livingston's left Liberty Hall, other families valued trees. For example, Lord Bolingbroke, one of the many people to live at Liberty Hall, planted trees and planned out elaborate gardens and walking paths. Many of these trees are still on the property and visitors can still walk on the historic serpentine path today.



1. Belle de Choise
2. Tenéran Cherry (2)
3. Napoleon Byeman
4. Black Eagle
5. Redneck of Wintonburg
6. Beuse Capiamont
7. Epine du Mar
8. Sechle
9. Bentell
10. Easter Beuse
11. St. Michael (2)
12. do probably
13. do fruit 1846
14. Epine d'ble
15. Dutcheffs d'Angouleme (2)
- 16.
17. Lady Apple
18. probably billy apple
19. Monard Pippin
20. billy Apple (2)
21. probably same as 20
22. Yellow Bell flower (1)
23. probably Tartara Cherry
24. Black Heart

The plan for the Serpentine Path (1846). On the right is a list of all the varieties of trees planted along the path. Many of those trees still stand today.

## How can you help care for trees in your neighborhood?

- Find a tree in your neighborhood or yard to study
  - Identify the species of your tree
    - Do a bark rubbing
  - Collect of leaf or flower from the tree
    - Calculate the age of your tree
- Write a short story from your tree's perspective
  - Draw a picture of your tree

### **How to Identify the Species of Your Tree:**

Become a scientist and identify the species of the tree you chose to study! Use this helpful guide below from the Woodland Trust to help you identify your tree.

#### **1. Take a closer look at certain elements of your tree:**

**Bark:** Take a closer look at the appearance, texture, markings and color of the bark. Does it have a pattern of ridges or depressions, peeling flakes, smooth or shiny? Is it grey, white, red or green?

**Leaves:** Leaf type, shape, appearance, texture and color are all key characteristics when identifying trees. Does your tree have broad flat leaves or needles or scales?

**Flowers:** Many trees only bloom at a particular time during the year but if you can see flowers, usually in the spring, it can be another helpful to help with tree identification.

**Fruits and seeds:** At the right time of year, fruits and seeds are a great character to help with identification. Fruits of trees vary and can include: berries, stone fruits, apples or pears, as well as pine cones!

#### **2. Do some research!**

Use the clues you have gathered and discover what species of tree you have chosen to study. Many websites and apps help people identify trees. Maybe you know a tree expert? Ask them to help! Look up your tree in a tree encyclopedia! There are so many ways to do tree research!

**Use the next page to do a bark rubbing of your tree, examine a leaf or flower from your tree (only if it has fallen on the ground), make notes of any observations, and take your best guess at what type of tree you have chosen to study.**

**Tree Name:**

**Bark Rubbing**

**What else do you notice about this tree?**

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**Tape a Leaf Here**



## How old is your tree?

Have you ever counted the rings of a tree to see how old it is? During Hurricane Sandy, one of Liberty Hall's trees fell down in the storm. We saved a piece of its trunk so visitors can count its rings.

Most people measure the age of trees by counting their rings. But what if the tree is still standing? How do scientists know how old the tree is? Become a mathematician and measure the age of your tree!



### What you will need:

- Measuring tape
- Pencil

1. Measure the diameter of the trunk of your tree.

To do this, starting at 4 inches up from the base of the tree, measure the circumference of the tree's trunk (in inches) with measuring tape. The circumference means the distance all the way around the tree's trunk. Take the circumference of the tree and simply divide it by 3.

Diameter of your tree: \_\_\_\_\_

2. Determine the species of tree:

Use the leaves, the bark, and location of your tree to guess which species of tree you have adopted.

Tree Species: \_\_\_\_\_

3. Look up the growth factor of your tree:

Each different species of trees grow differently. Scientists have recorded their growth factors below:

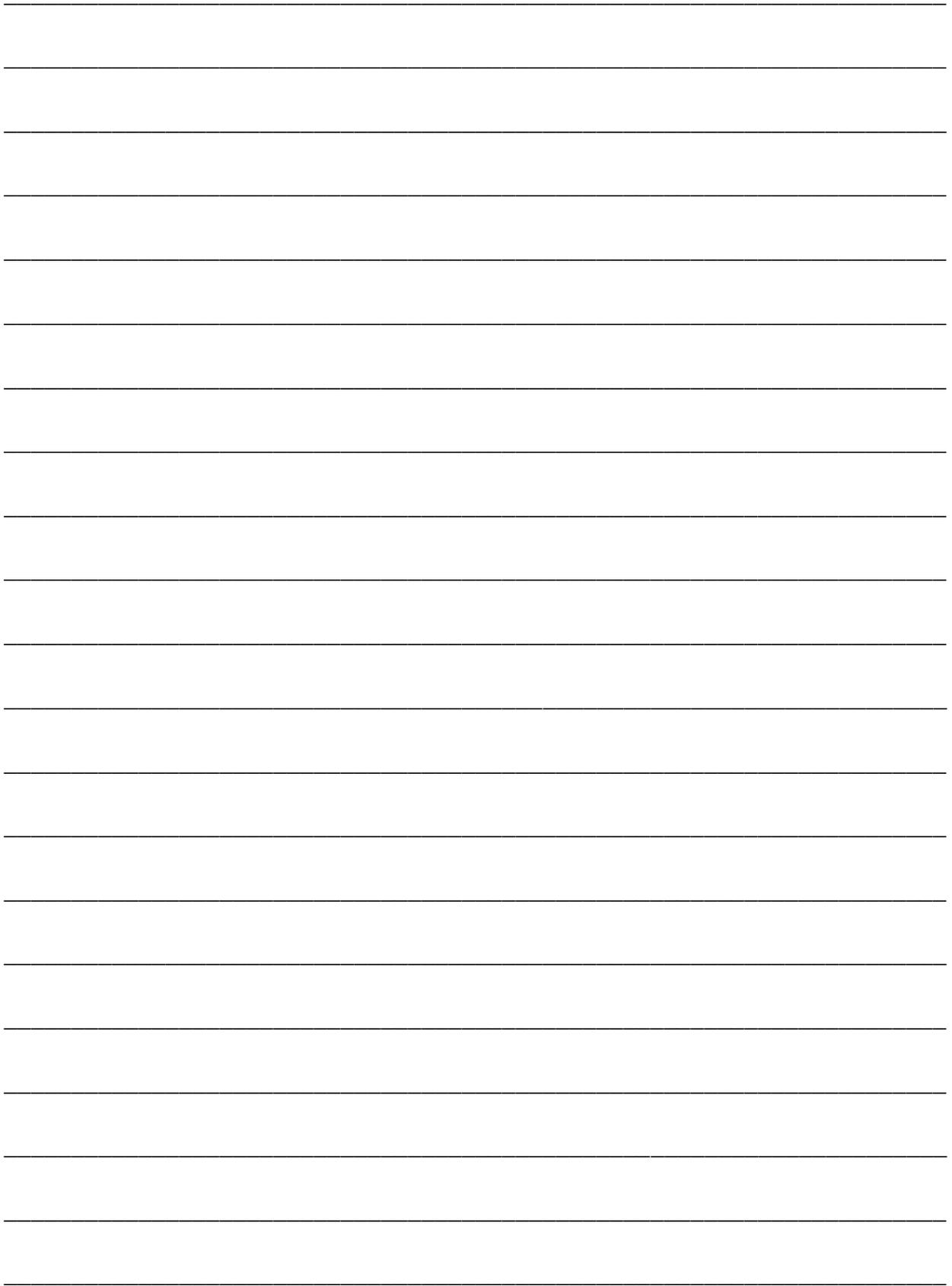
Red Maple 4.5	White Oak 5.0	Silver Maple 3.0	Red Oak 4.0
Sugar Maple 5.0	Pin Oak 3.0	White Birch 5.0	American Elm 4.0
Black Walnut 4.5	Dogwood 7.0	White Pine 5.0	Shagbark Hickory 7.5

4. Complete the Formula:

Formula: Diameter X Growth Factor of Tree Species= Age of Tree

What is the estimated age of your tree? \_\_\_\_\_





Become an artist and draw your tree:



### Want to do more?

- Learn more about our historic trees:
  - <https://www.libertyhallgrounds.org/>
- Read your favorite book about trees and the environment! Some of our favorites include:
  - *The Lorax* by Dr. Seuss
    - Youtube Read Aloud: <https://www.youtube.com/watch?v=EdWesdMfyd4>
  - *The Giving Tree* by Shel Silverstein
    - Youtube Read Aloud: <https://www.youtube.com/watch?v=XFQZfeHq9wo>
  - *Farewell to Shady Glade* by Bill Peet
    - Youtube Read Aloud: [https://www.youtube.com/watch?v=7T\\_5vA5xmsl](https://www.youtube.com/watch?v=7T_5vA5xmsl)
  - *In the Woods: Who's Been Here* by Lindsay Barrett George
    - Youtube Read Aloud: <https://www.youtube.com/watch?v=3DDiDOgyYMI>
  - *Tree in the Trail* by Holling Clancy Holling
- Looking for other books?
  - Check your local library's digital collections
  - Free Audio Book Guide from Scholastic:
    - <https://www.scholastic.com/parents/books-and-reading/raise-a-reader-blog/free-audio-books-and-why-you-should-try-them.html>
  - Audible Free Audiobooks
    - <https://stories.audible.com/discovery>

### Tag us on Social Media!

If you had fun studying a tree in your neighborhood or yard, we'd love to hear about it! Please share your stories, pictures, and drawings by emailing the museum or tagging us on our social media platforms!

- Email: [libertyhall@kean.edu](mailto:libertyhall@kean.edu)
- Facebook: libertyhallmuseum
- Instagram: @libertyhallmuseum

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