



## Duke Farms Living Habitats

### **Family Activity: Adopt-A-Tree**

#### A Family Activity for All Ages

Procedure: While you are here at Duke Farms choose a tree that interests you. You can choose from any of the trees in any area of Duke Farms that is accessible by biking or walking. Be sure to choose carefully, you will be watching this tree for the entire year!

Once you have chosen your tree, complete the following activities.

On your first visit:

1. Note the location of the tree. How will you find it again?

a. GPS Coordinates \_\_\_\_\_

b. Landmarks \_\_\_\_\_

2. Identify the tree. A tree has two names: a Common Name and a Scientific Name. Can you find both of them? (*see how to Identify your tree on Page XX of this guide*)

\*\*\*PLEASE DO NOT REMOVE ANY PART OF THE TREE IN ORDER TO IDENTIFY IT\*\*\*

Example: Common Name Red Oak Scientific Name: *Quercus rubra*

*Some trees at Duke Farms already have a label. It is okay to use these!*

Common Name of Your Tree \_\_\_\_\_

Scientific Name of Your Tree \_\_\_\_\_

*If you need help identifying a tree, take a picture of it and visit the Arbor Day*

*Foundation's What Tree is That? Page that will walk you through the steps of Tree ID.*

3. Measure the diameter of the trunk of your tree. To do this Starting at 4' up from the base of the tree, measure the circumference of the tree's trunk (in inches) with measuring tape. Take the circumference of the tree and simply divide it by 3.

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

4. Estimate the height of your tree. Measure the height of your partner. Working in pairs, one person stands beside the tree while their partner stands back and estimates how many times their partner fits into the height of the tree from root to crown. Estimate the height of the tree.

Estimated Height of your Tree: \_\_\_\_\_

5. Estimate the age of your tree.

**How to Estimate Age:**

- A. Work in groups of 3 or 4.
- B. Determine the species of your tree. Make sure it is on the list below.
- C. With a tape measure, find the circumference of the tree (in inches) 4 1/2 feet above the ground.
- D. Determine the diameter of your tree.

**Diameter = Circumference divided by 3.14 (pi)**

5. Calculate the age of the tree.

**Formula: Diameter X Growth Factor**

Tree Species	Growth Factor	Tree Species	Growth Factor
Red Maple	4.5	White Oak	5.0
Silver Maple	3.0	Red Oak	4.0
Sugar Maple	5.0	Pin Oak	3.0
River Birch	3.5	Linden or Basswood	3.0
White Birch	5.0	American Elm	4.0
Shagbark Hickory	7.5	Ironwood	7.0
Green Ash	4.0	Cottonwood	2.0
Black Walnut	4.5	Dogwood	7.0
Black Cherry	5.0	Redbud	7.0
		Aspen	2.0

Credits:  
 Lesson provided by Jim Gilbert & Cathie Plaehn  
 Drawn from the International Society of Arboriculture

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

On future visits:

**Adopt-A-Tree Leaf Sketch**

*Draw what the leaf of your tree looks like in each season.*

<b>Spring</b>	<b>Summer</b>
<b>Fall</b>	<b>Winter</b>

**Who is Using the Tree?**

*Answer these questions as you continue to visit your tree,*

What types of birds are using your tree? \_\_\_\_\_

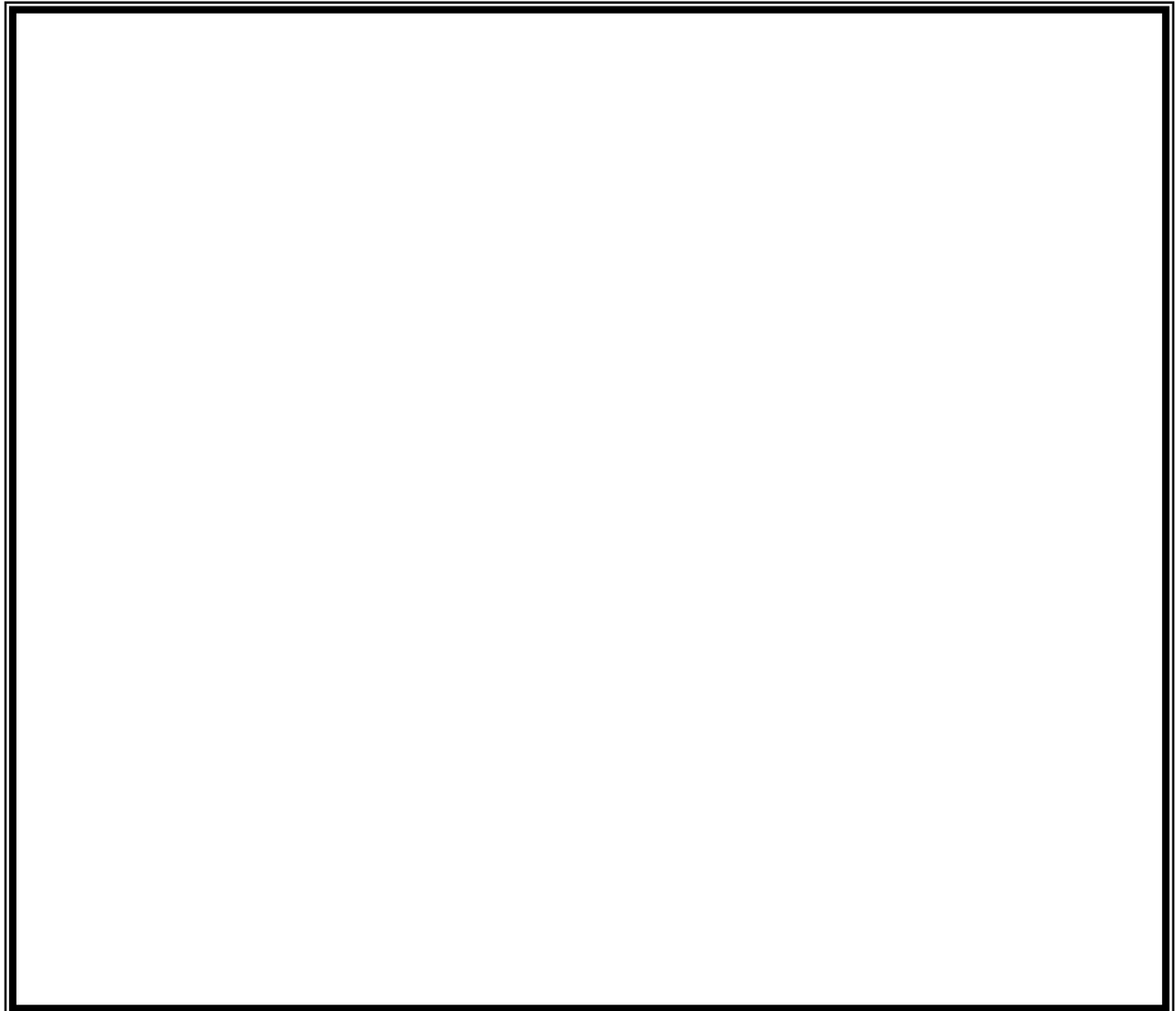
What types of insects are using your tree? \_\_\_\_\_

What types of mammals are using your tree? \_\_\_\_\_

Do you see any bird nests in your tree? \_\_\_\_\_

What evidence is there of people having an impact on this tree (pruning cuts, carved bark)?  
\_\_\_\_\_

**Sketch your Tree.**



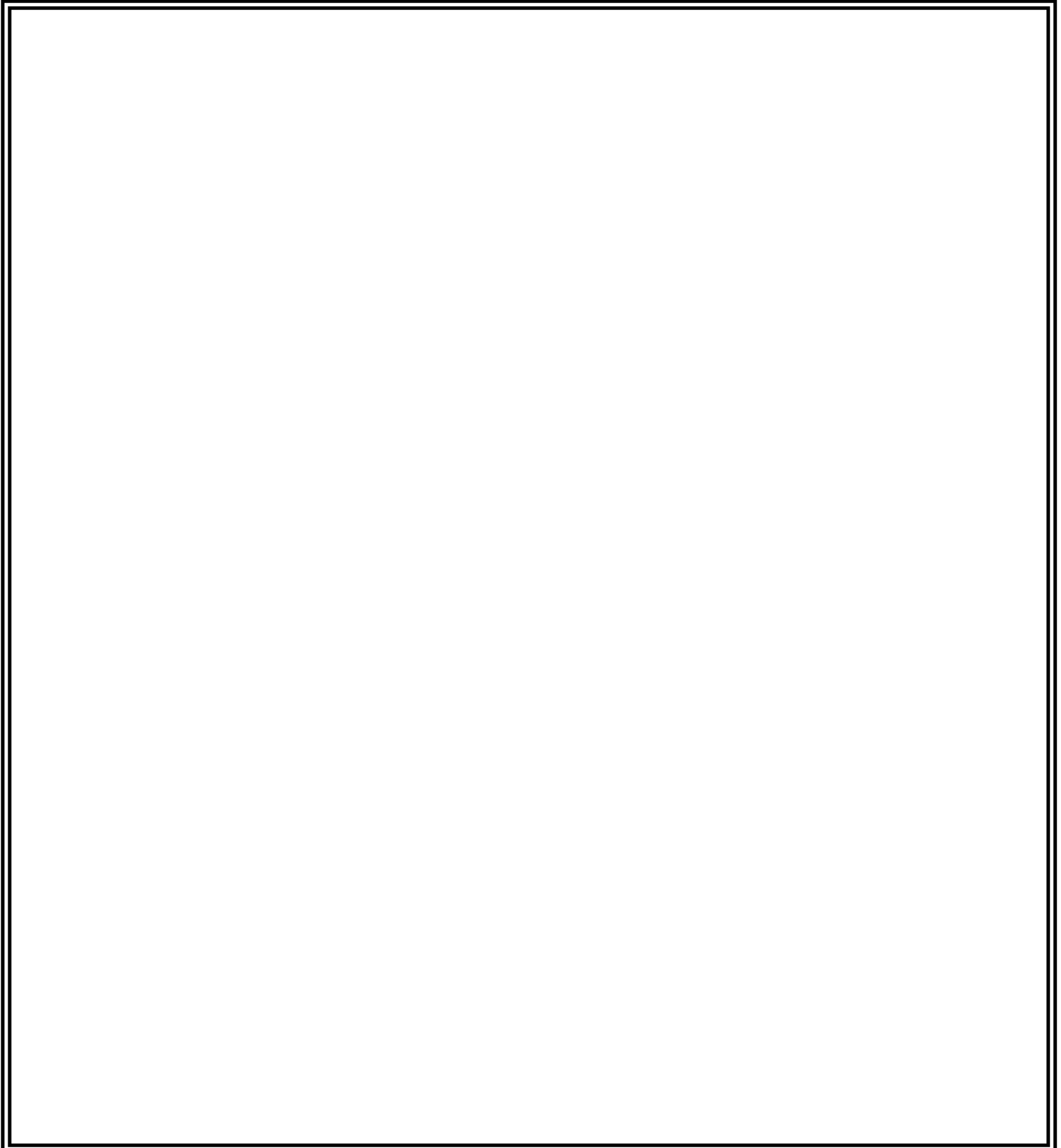
### Visiting Your Tree

Try to visit your tree 1 time per month to see how it changes throughout the year. Note anything you notice about your tree in the spaces below. Some observations you may want to include are: flowers, fruits, nuts seeds, animals, insects, fragrance, color change, damage, growth

Visit 1	Date	Notes
Visit 2		
Visit 3		
Visit 4		
Visit 5		
Visit 6		
Visit 7		
Visit 8		
Visit 9		
Visit 10		
Visit 11		
Visit 12		

















## **Bark Rubbing**

Instructions: Using the side of a pencil, colored pencil or crayon place this piece of paper over the bark of the tree and gently rub the pencil or crayon over the bark. Knowing what the bark of trees looks like is one way to identify trees in winter when they have no leaves!



## **Other Activities and investigations to Complete During Each of Your Tree Visits**

*(Adapted from Project Learning Tree © American Forest Foundation)*

-  Write 10 words to describe your tree.
-  Use your sense of touch to explore your tree. How does it feel?
-  Write a poem about your adopted tree
-  Do you see any seedlings growing around your tree? Are they the same type of tree or different? How do you know?
-  Study the environmental factors around your tree and compare them to factors in the other area. (example, water, sunlight, surrounding vegetation)
-  Write a letter to a friend or family member telling them about your tree.
-  Take a picture of your tree at every visit.
-  Sit quietly near your tree and listen closely. What do you hear?
-  Are there any plants growing on the bark of your tree? What do they look like?
-  Look for the same kind of trees around Duke Farms. Where do you find them? Are they bigger or smaller than your tree? Older or younger? Taller or shorter?
-  Make up a song about your tree.
-  Write down all the reasons trees are important. Can you think of at least 10?
-  Take a close look at the tree bark. How many different kinds of insects are using the tree?
-  How many spiders can you find on the tree?
-  Compare and contrast this tree with another tree in the area. How are they the same? How are they different?
-  Draw what your tree would look like from a Bird's-Eye-View

**Tree Journal**

Date: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

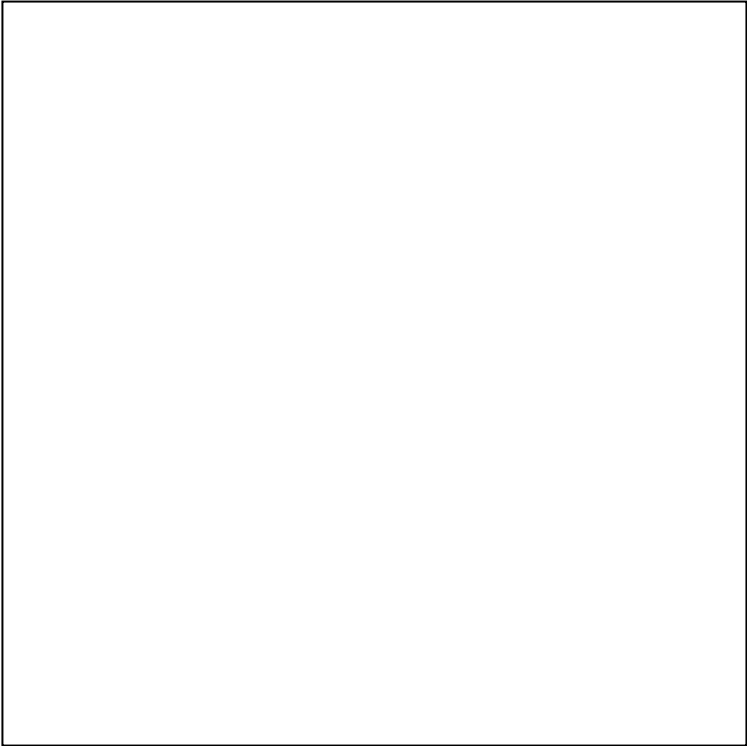
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