

# **Tree Adventure Tour**

## **Pre-visit Activities**

### **Grades 4-6**

These activities are intended to prepare you for your tour of Tree Adventure at the Morris Arboretum. Completing these activities will allow the tour to be more interactive and lead to a more rewarding educational experience.

#### **Tour objectives:**

1. Students will be able to discuss how trees impact our environment
2. Students will compare and contrast different types of trees and the wood that we get from them.
3. Students will be able to explain the process of photosynthesis
4. Students will be able to describe the functions and growth of roots
5. Students will be able to identify and discuss the factors that affect the growth rate of trees

#### **Pennsylvania Academic Standards Met**

Reading, Writing, Speaking and Listening standards: 1.1.5, 1.2.5, 1.6.5

Mathematics standards: 2.3.5, 2.4.5, 2.6.5

Science standards: 3.1.4, 3.2.4, 3.3.4, 3.4.4, 3.8.4

Environment and Ecology standards: 4.3.4, 4.4.4, 4.6.4, 4.8.4

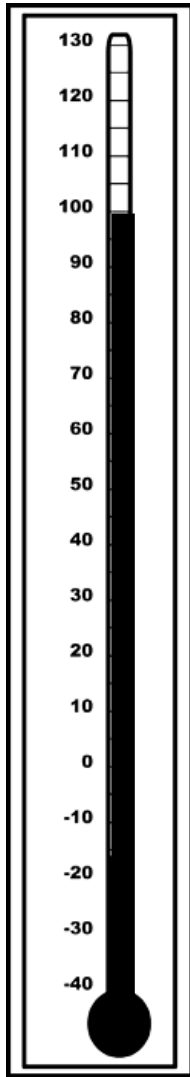
#### **Tree Vocabulary**

Match the definition to the correct term. These words may be used during your tour!

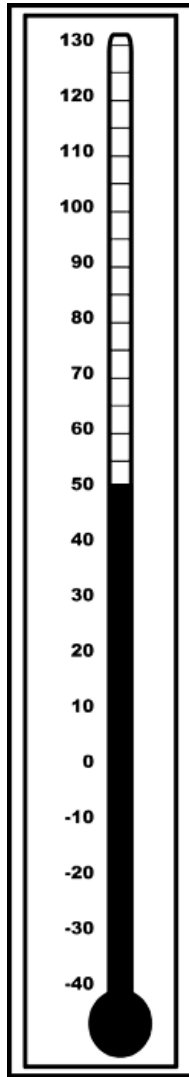
- |  |                   |
|--|-------------------|
| 1. ____ Tubes that carry minerals and water to the leaves    | A. Tree rings     |
| 2. ____ Tubes that carry sugars from the leaves to the roots | B. Storage        |
| 3. ____ The speed the trees grow                             | C. Photosynthesis |
| 4. ____ All the trees and plants that live in the city       | D. Growth rate    |
| 5. ____ The removal of soil by wind or water                 | E. Genetics       |
| 6. ____ Taking something in                                  | F. Sap            |
| 7. ____ Holding on to something until it is needed           | G. Phloem         |
| 8. ____ Sending something from one place to another          | H. Xylem          |
| 9. ____ Tiny nutrients dissolved in soil water               | I. Minerals       |
| 10. ____ Sugary substance produced by the leaves             | J. Habitat        |
| 11. ____ This is what you look at to know a tree's age       | K. Transport      |
| 12. ____ This is the process that leaves use to make food    | L. Urban forest   |
| 13. ____ This is the harmful parts of air and water          | N. Pollution      |
| 14. ____ The term for the homes of animals                   | O. Absorption     |
| 15. ____ The term for the genes that an organism has         | P. Erosion        |

## Reading a Thermometer

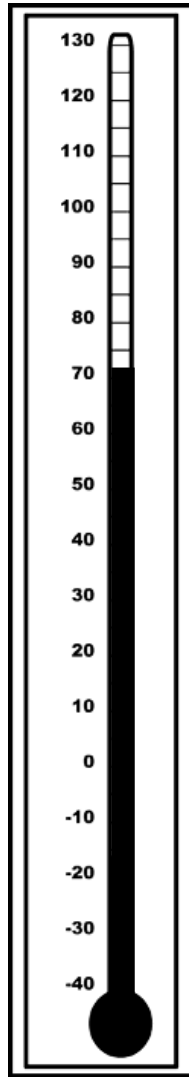
Look at the thermometers below and record the temperature.



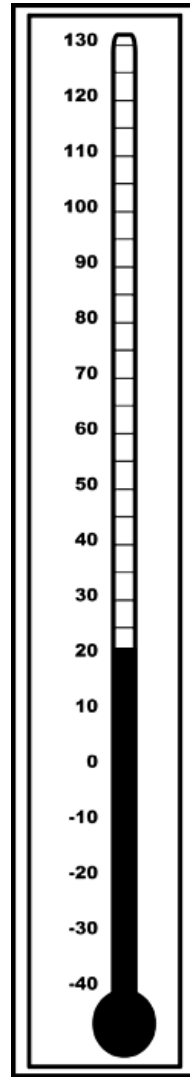
Temperature  
= \_\_\_\_\_



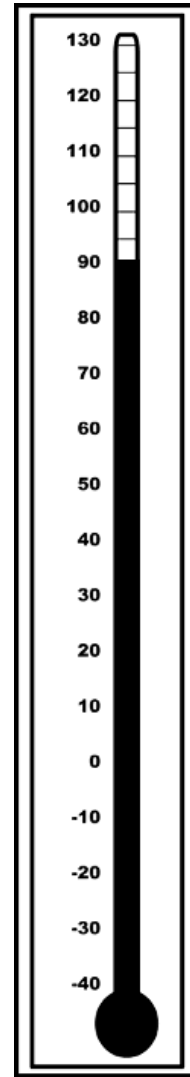
Temperature  
= \_\_\_\_\_



Temperature  
= \_\_\_\_\_



Temperature  
= \_\_\_\_\_



Temperature  
= \_\_\_\_\_

## **Trees as a Food Factory:**

Each part of a tree has a very important function. If you were to remove any of the parts, the tree would not be able to survive, so no one part is more important than the others. One of the most fascinating plant processes is photosynthesis, the process by which plants make their own food. You could think of trees as a factory where ingredients are mixed, and then changed or arranged to make a product. For example:

To make a shirt, you would need:

- A pattern
- Fabric
- Scissors
- Thread
- Sewing needle

To make a car, you would need:

- A pattern
- Metal
- Paint
- Glass
- Wires
- Plastic

What are the “ingredients” that trees need to make food?

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## **Making Observations:**

While you are here, you will be asked to observe many things. Some of them will be plants, and some will be animals. So before you come, make some observations in your neighborhood.

- Do you see any animals using the trees? What kind?
- How many different kinds of trees can you see?
- What are the differences between different types of trees?

# Tree Adventure Tour

## Post-visit Activities

### Grades 4-6

#### Tree Adventure Word Search

Find the tree-related vocabulary words in the grid below. As you do, try to remember what they mean or how they were used.

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

TREE RINGS
STORAGE
PHOTOSYNTHESIS
GROWTH RATE
GENETICS
SAP
PHLOEM
XYLEM
MINERALS
HABITAT
TRANSPORT
URBAN FOREST
POLLUTION
ABSORPTION
EROSION

#### Sketch the Roots

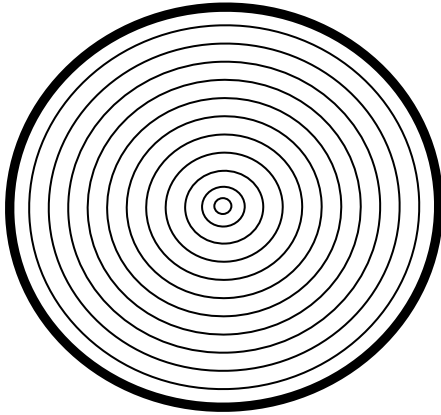
Now that you know what the roots of a tree might look like, draw them in below.



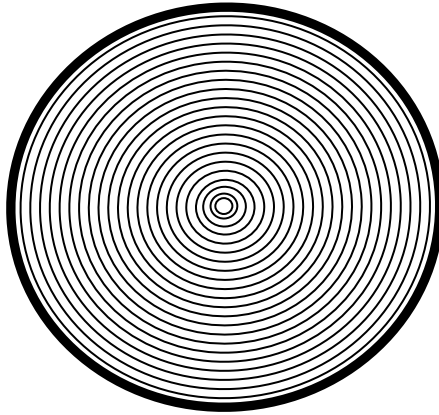
## Tree Rings

Pretend that the pictures below represent three different dawn redwood trees. First, notice that they are all about the same size, but one has a lot of rings, another has very few rings, and the other has an average number of rings.

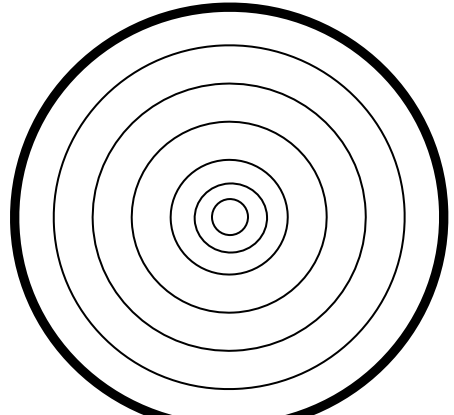
Based on what you have learned about tree growth, what can you guess about the conditions of the site that these trees are growing on?



Tree A  
Age = \_\_\_\_\_



Tree B  
Age = \_\_\_\_\_



Tree C  
Age = \_\_\_\_\_

In your answers, please include a description of the following things:

1. Is this tree growing by itself or in a forest setting (or maybe at the forest edge)?
2. How many other trees and/or plants do you think are also there?
3. Is this tree growing near a water source?
4. Do you think this is a tall tree, a medium sized tree, or a short tree?
5. Is the wood going to be heavy or light?