

## **Teacher's Guide to the Seasons and Cycles tour:**

### **PRE- and POST- VISIT ACTIVITIES**

Our Seasons & Cycles Tour is designed for students from kindergarten through 2nd grade. The following activities and vocabulary cover a wide range of skills and knowledge levels.

Please use them as you see fit to make your visit more enjoyable and educational.

Prior to your visit to the Arboretum, students should know:

- The four seasons and their characteristics, and repetitive cycle.
- Living things may be plants (like trees) or animals (like human).
- Living things can make more things like themselves (reproduce).
- Plants can make their own food, animals depend on plants for their food.
- Plants need water, food, air, and sunlight to grow.

### **Suggested Pre-Visit Activities:**

1. Label the parts of the tree. (make copies of attached sheet)
2. Word search (make copies of attached sheet – choose which level is appropriate.)
3. Complete the mini scrapbook of a tree in the four seasons. (make 2-sided copies using the front and back sheets.)
4. Plant lima beans in a glass jar using a wet paper towel and watch growth. Notice the tiny plant (embryo) inside. Draw each stage of development.
5. Force a branch to bloom by bringing a cutting with buds inside in late winter. Crush the end of the branch and put it in a vase of water. Watch as leaves or flowers come out.  
(Try forsythia, cherry or crabapple)
6. Place bulbs in water and watch them produce roots.
7. Cut the top off of a carrot, put it in water, and watch it grow.
8. Bark rubbings, Leaf rubbings.

## **Suggested Post-Visit Activities:**

1. Send us a letter sharing what was learned at the Arboretum. (See attached letter from John and Lydia)
2. Write a story that includes all the different ways people use plants.
3. Make a collage or a plant cast of items collected in a neighborhood or park.
4. Collect seeds and notice how different shapes affect dispersal. (Maple seed, Acorn, dandelion seed.)
5. Sort collected items according to shape, color, size, texture, etc.
6. Cut up fruit to see the seeds. Cut up a flower to see the ovary.
7. Watch a flowering plant, study pollination, and the fruit production cycle.
8. Encourage children to read books related to nature and share their reading with the class.  
(May be done as a pre-visit activity.)

## **Resources**

Ardley Neil. 1991 The Science Book of Thing that Grow. Gulliver Books. Harcourt Brace Jovanovich, Publishers. Orlando, Florida. **Pre-7**

Gamlin. Linda. 1997 Trees (from "Eyewitness" series) DK Publishing, Inc. NY. **Pre-5&8**

Harlow. Rosie & Morgan. Gareth. 1992. 175 Amazing Nature Experiments. Random house. NY. **Pre-4, 5 &6**

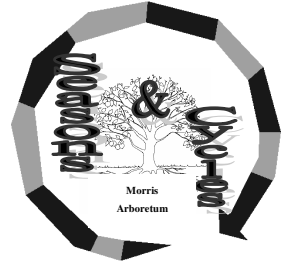
Rahn. Elma. Joan. 1973. How Plants Travel. Atheneum. NY. **Post-4**

Selsam E.Millicent & Wexler Jerome. 1980. Eat the Fruit Plant the Seed. William Morrow & Company, NY. **Post-6**

Shuttlesworth. E. Dorothy 1976. The hidden magic of seeds Rodale Press, Inc. Book Division. **Post 6 &7**

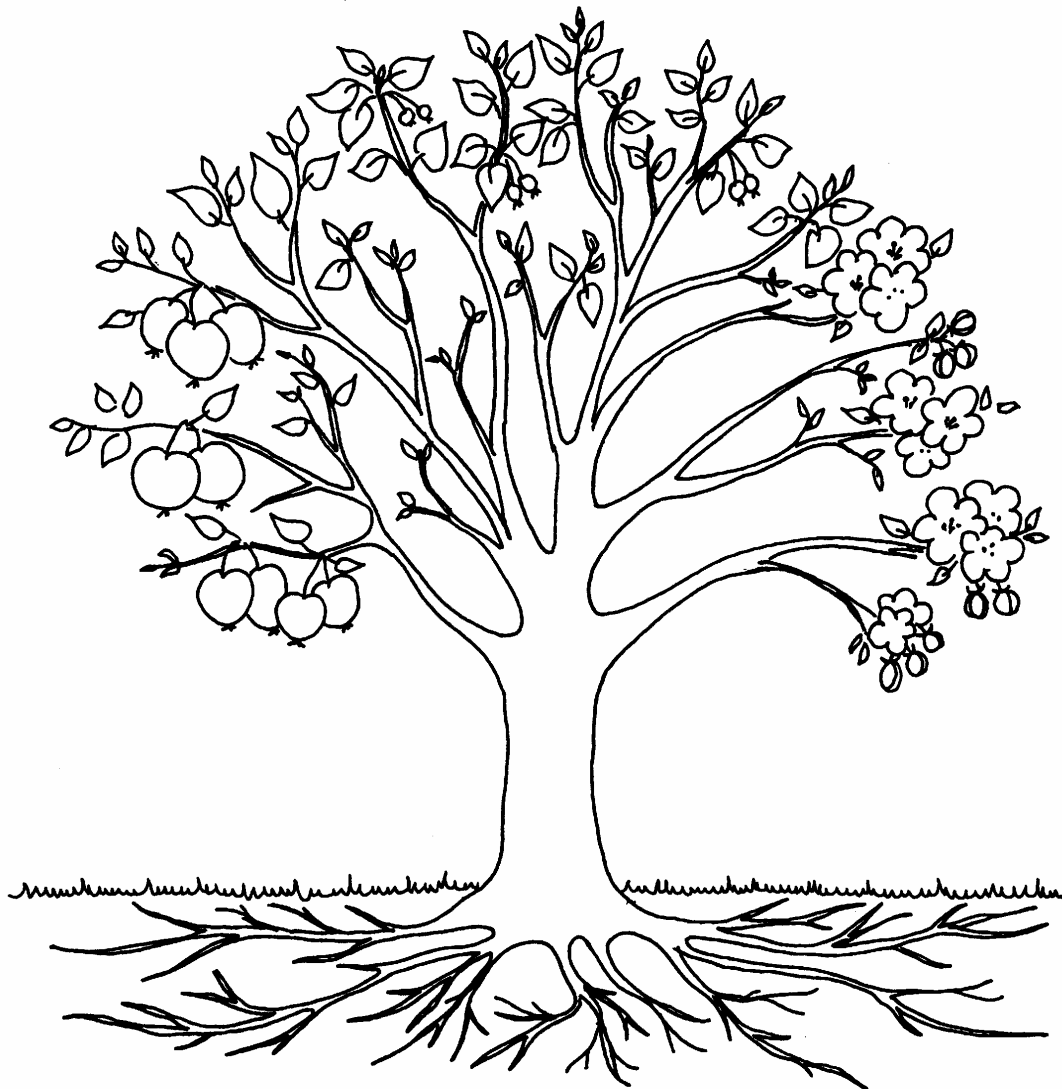
Watts. Claine. 1995. Make it work! Plants Thomson Learning. NY. **Post-4**

## Pre- visit activity #1



# Label the parts of the tree.

Bark, branch, bud, flower, fruit, leaf, root, trunk.



## Pre- visit activity #2

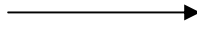


**Down**



FLOWER  
FOOD  
TREE  
WATER

**Across**



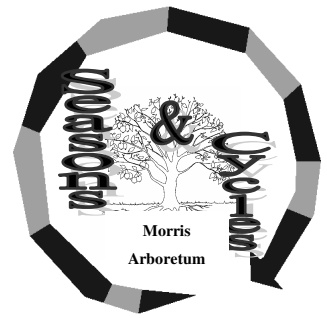
AIR  
BUD  
FRUIT  
LEAF  
ROOTS  
SEED

Left over letters spell one more thing that plants need to grow.



S	F	R	U	I	T	W
U	L	E	A	F	R	A
F	O	B	U	D	E	T
O	W	A	I	R	E	E
O	E	S	E	E	D	R
D	R	O	O	T	S	N

## Pre- visit activity #2



Vocabulary:



**Horizontal**

BUD  
ROOT  
SEED  
SPRING  
SUMMER  
SUN  
TRUNK  
TWIGS



**Vertical**


BARK  
CYCLE  
FALL  
FRUIT  
LEAF  
NUTS  
WINTER



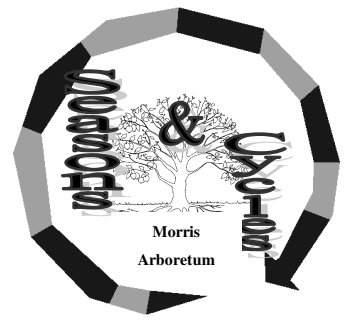
**Diagonal**

BRANCH  
FLOWER  
SEASONS

Left over letters spell the word “Arboretum.”

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

## Pre- visit activity #2



Vocabulary:

### Vertical

BERRY  
CYCLE  
DORMANT  
EVERGREEN  
NEEDLES  
NUT  
SUMMER  
SUN  
POLLEN  
ROOTS  
TRUNK  
TWIG  
WINTER  
WOOD

### Horizontal

BARK  
BRANCH  
FALL  
FLOWER  
FOREST  
FRUIT  
LEAF  
SEASON  
SHADE

### Diagonal

BUD  
DECIDUOUS  
PINE CONE  
SPRING  
SEED

Left over letters spell the names of the people who started our Arboretum.

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



Open next



Draw your favorite tree here.

Date \_\_\_\_\_

Fold in here



Visit your favorite tree in different seasons.

It's \_\_\_\_\_ season) now.

Find your favorite tree.

Does it have flowers?

Does it have leaves?

Does it have fruit?

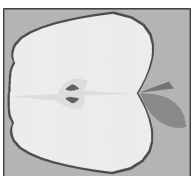
Does it have buds?

Fold down here first

Pre – visit activity

#3

Seasons and Cycles



Class \_\_\_\_\_

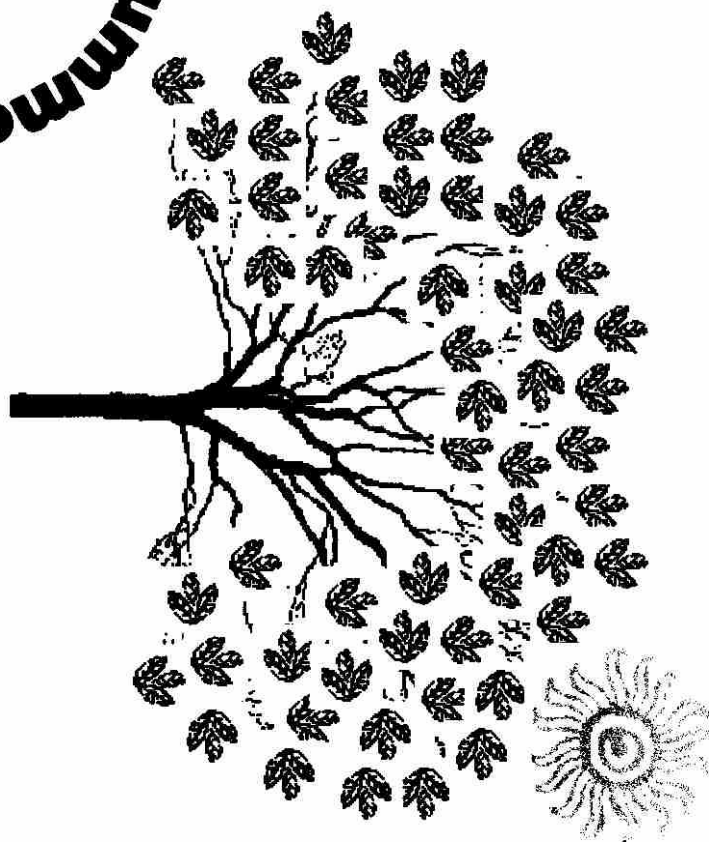
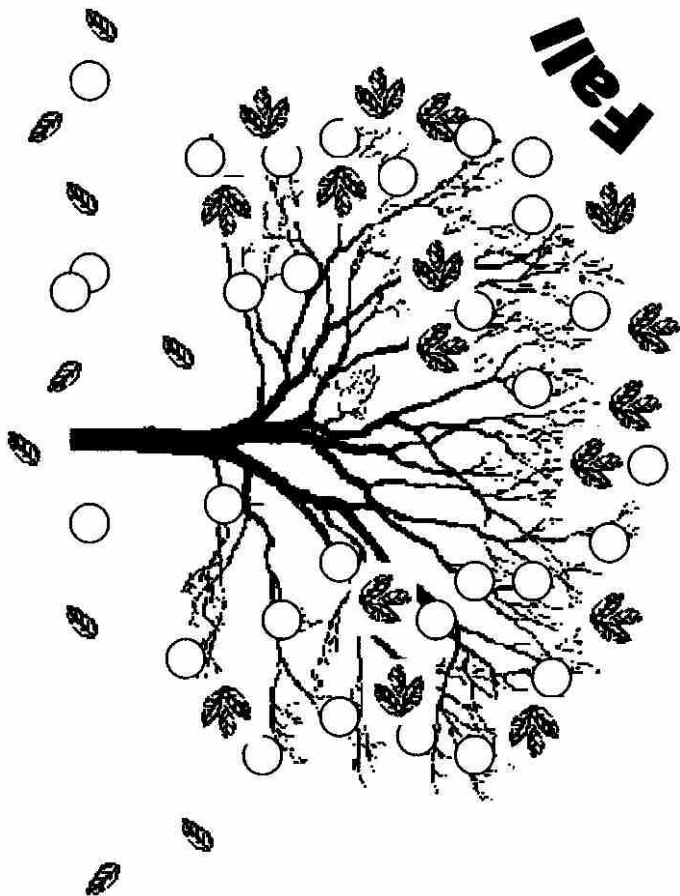
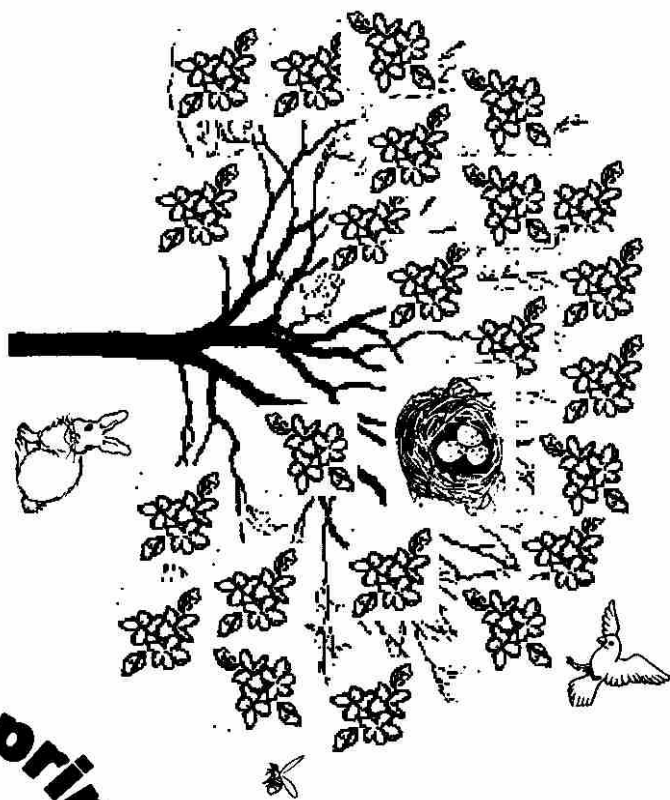
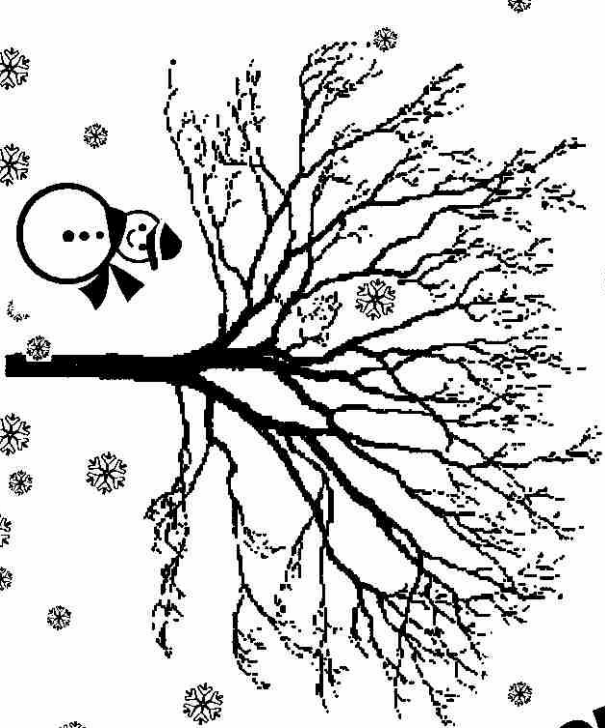
Name \_\_\_\_\_



Morris Arboretum of the  
University of Pennsylvania

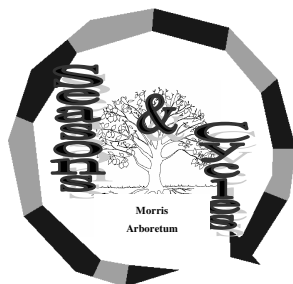
*The official arboretum of the Commonwealth of Pennsylvania*

**Winter** **Spring**  
**Seasons**  
**Fall** **Summer**





## Pre- & Post- visit activity #1



### Dear teachers

This attached letter is a lead-in for a post-visit activity for the students who are going to visit our arboretum for the *Seasons & Cycles* tour. The aim of this activity is for children to review their visit and make it more meaningful. Please read the letter to the students before your visit so that they know they will be responding to the letter.

### Back ground information

We have designed a letter that might be sent by John and Lydia Morris who owned Morris Arboretum as an estate about 100 years ago. They traveled and collected plants from all over the world. They always wanted to share their plants with other people. After their death, the Arboretum was donated to the University of Pennsylvania. Since then, education became part of our mission and we regularly invite school children to visit the Arboretum.

Today, John and Lydia's bronze sculptures are on a slope near the Sugarman's Sculpture at our Arboretum to remind us of them.

We hope you enjoy your trip to our Arboretum.

Thank you very much!

**Education Staff  
Morris Arboretum**



**Morris Arboretum of the  
University of Pennsylvania**

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*The official arboretum of the Commonwealth of Pennsylvania*

Dear \_\_\_\_\_

Come visit us and see our beautiful trees at Morris Arboretum. When we first planted our garden over 100 years ago, we hoped that children like you would come and see our place. When you come to the Arboretum, make sure you stop by and say hello to us on the slope near the big colorful Sugarman's Sculpture.

We have a big favor to ask you since we can no longer walk around our garden. After your visit, let us know what our trees are doing and what you discovered at our arboretum. You may use pictures and words.

We are looking forward to your visit.

John & Lydia Morris  
John and Lydia Morris