TrashMasters!™

Team Up to Clean Up

Intermediate Division
Manhattan Borough
& Citywide Winner

IS 52 Inwood - SEAS
School of Environmental
and Applied Sciences

NEW YORK CITY DEPARTMENT OF SANITATION

2011 GOLDEN APPLE AWARDS

This certificate is awarded with the sincere appreciation and esteem of a grateful Department and City in recognition of your school's efforts to help make New York City shine.

City of New York, Michael R. Bloomberg, Mayor
Department of Sanitation, John J. Doherty, Commissioner
Bureau of Waste Prevention, Reuse and Recycling, Robert Lange, Director

John J. Doherty, Commissioner
June, 2011

2011 Golden Apple Awards
Contest Entry Judging Info

(This sheet prepared for judges' use by DSNY BWPRR)

ID Info: 11012

School: IS 52M Inwood - School of Environmental and Applied Sciences SEAS

Grade Division IS

Borough: M

☑ **Golden Shovel Award contestant**
(for borough Master School Composter)

School Population: total # 800

2011 Project Entries received for:

	Received:	Core Group:	Total Participating:
☐ **TrashMasters! Super Recyclers**			
☐ **TrashMasters! Reduce & Reuse Challenge**			
☑ **TrashMasters! Team Up to Clean Up**	5/2/2011	22	22

Street Tree Protection and Beautification

In small groups, students adopted some of the 300 street trees that they helped plant on Earth Day 2010 through the STEMester of Service project grant with MillionTreesNY and NY Restoration Project. This year they learned how to care for trees through the Young Urban Forester Program at TreesNY, and how to build tree guards through Brooklyn Shade. They designed signs to educate the public, cleaned the tree pits, amended the soil with compost, and planted annuals at the base. They will also build wooden fences which will protect the trees and provide a place to hang their signs. ALSO review for Golden Shovel Award.

Prior Year Entries:
08:SR-C,RR-part,TU-part; 09:SR-part

School Contact Information:

Phone: 212-567-9162
Address: 650 Academy St
New York 10034

Block&Lot: 1022330020
DOE Location: M052

REQUIRED for Super Recyclers only:

Custodian: ARMANDO CHAVARRIA
Custodian's Phone: 212-569-2318
Custodian's Email: cm052@schools.nyc.gov

Contest Coordinator: Pam Scott
Coord Phone # (if different): 212-942-0919
Coordinator Email: pamscott64@yahoo.com

Principal: Salvador Fernandez
Principal Email: dr.fernandez@inwood52.org

Comments (may not be relevant to judging)

Participates in GrowNYC Recycling Champions program.
http://schools.nyc.gov/SchoolPortals/06/M052/default.htm
http://www.opt-osfns.org/dsf/schools/schoolpage.aspx?bldg=M052
PScott2@schools.nyc.gov
SFernan@schools.nyc.gov

Info Confirmed:

5/9/2011

School of Environmental and Applied Sciences
@ The Inwood Community Campus

Team Up to Clean Up

IS52 – Manhattan
Inwood Intermediate School – School of Environmental and Applied Sciences (SEAS)
650 Academy Street, 4th Floor
New York, NY 10034

Luis Tejada, Assistant Principal
212-943-7651
mr.tejada@inwood52.org
Pam Scott, ELA Teacher, Sustainability Coordinator
(917) 214-1484
ms.scott@inwood52.org

School Description

The School of Environmental and Applied Sciences (SEAS) is part of the IS52 Inwood Campus. The school is in its start up year and was developed in order to prepare students to face the environmental challenges of the next generation. Our mission is to create graduates who will become stewards of the natural world and environmental leaders.

Borough:	Manhattan
Grade Division:	Intermediate
Contest Entry Title:	Street Tree Protection and Beautification

Contest Entry Summary:

The street tree project was developed as part of the STEMester of Service Project grant, which began around the Martin Luther King, Jr. holiday and was scheduled to end on Earth Day in April. Last year on Earth Day, Million Trees NY and NY Restoration Project, along with volunteers from Bank of America and students from IS52, planted nearly 300 trees in the neighborhood. This year, in order to maintain those new trees, the focus was on teaching the students about how to care for the street trees through the Young Urban Forester Program at Trees NY and how to build tree guards through Brooklyn Shade. In small groups, the students “adopted” trees located on the eastern side of the school. They designed signs to educate the public, cleaned the tree pits, amended the soil and planted annuals at the base. They will also build wooden fences to protect the trees and hang the signs on the fences of their adopted trees.

IMPLEMENTATION OF THE PROJECT:

This project was designed as a follow-up to a street tree planting completed last year. Last year on Earth Day, Million Trees NY and NY Restoration Project, along with volunteers from Bank of America and students from IS52, planted nearly 300 trees in the neighborhood. The area to the east of the school had never had street trees before, so representatives from Million Trees NY came and cut tree pits all along Vermilyea Street. While students were not part of this planning process, they were invited to assist the other volunteers during the planting.

This year, in order to maintain those new trees, the focus was on teaching the students about how to care for the street trees through the Young Urban Forester Program at Trees NY and how to build tree guards through Brooklyn Shade. Funding was obtained through a grant from the STEMester of Service Work Project as part of the Learn and Serve America. Part of the stipulation of this grant was that we identify at-risk students and maintain an enrollment of at least 20 students. Therefore, we selected class 803 to participate. This class is a CTT class, which is comprised of 12 special education students and 14 general education students. Classes were held during our Extended Day program which was the period directly after lunch. A few students requested other projects, so the street tree group amounted to 22 students.

Students participated in the classes with a trainer from Trees NY both during Extended Day and on three separate Saturday afternoons. At the end of the training, they took the Young Urban Forester certification examination (attached). They learned the benefits communities receive from having street trees in their neighborhoods, from shade in the summer, absorbing more water during rainstorms, to cleaning the air and making the neighborhood more beautiful. They also learned how to identify the common varieties of street trees, what stresses the street trees are under and how to help the street trees survive these additional stresses. They also learned about the GPS equipment and which branches should be pruned from a street tree and why.

In small groups, the students “adopted” the newly planted trees located on the eastern side of the school. They designed signs to educate the public, cleaned the tree pits, amended the soil and planted annuals at the base. Pictures of the first two phases of the project are attached.

They will also build wooden fences to protect the trees. Attached is a Powerpoint program that will be presented to them at the end of May as an introduction to building the tree guards. This last phase of the project has not been completed yet, but the plan is to complete all the tree guards by the first week of June. At that time students will also laminate and hang the signs they designed to educate the public about some of the factors damaging street trees, such as dog waste and salt to de-ice the sidewalks during winter (see attached).

The culminating celebration will also take place in June. Students who passed the Young Urban Forester exam will receive certificates from Trees NY. In addition, all the students who participated in the project will receive a certificate of participation because they fulfilled their 50 hours of community service, a requirement for graduating from SEAS. A special assembly will be held to honor their participation in this project (as well as students from other projects).

Phase 1 – Students learn to identify varieties of street trees and their common problems. Students also begin to clean tree pits of garbage.

Students from class 803, with Trees NY trainer, Barry and Ms. Scott, project coordinator were working to identify the common varieties of street trees as well as collecting garbage around the tree pits.

TREES NEW YORK

Phase II – Students measure tree pits as the first step in building the fencing and clean tree pits of garbage.

Johanna, with Wilver's help, (below) are measuring the tree pit.

.

Argeny, Michael and Flor (below) are also measuring/cleaning their tree pits.

Phase III – Students amend the soil with peat moss and plant annuals to aerate the soil and beautify the block.

Argenis and Chris (above) and Jose, Yeltsin and Ramon (below) work to beautify the neighborhood and care for the street trees by planting annuals.

Julio, Kellie and Johanna work on their trees (above) while Michael, Flor and Yomaira do the same (below).

Mr. Morban helps Wilbert, Fransis and Christian plant some annuals (above). Adileny and Argenis give a “thumbs up” for their work.

Johanna looks happy to be completing her area (above) while Christian is just getting started (below).

PROJECT ANALYSIS

The students enjoyed the hands-on work the most, so every time the street tree training took us outside, it was extremely successful with the students. The classroom sessions were a little less successful because it felt too much like “school” to the students. However, background information such as street tree identification, what street trees need and what stresses they face is all necessary knowledge to care for the trees completely. More visual aids would help the lower students who require scaffolding of the difficult information. These students are also very technologically savvy and the program would benefit from some internet research on their own during the classroom sessions if time permitted. I would also recommend that school check liability issues with building tree pit fences in front of the school where buses drop off and pick up students.

This program could easily be duplicated at other schools, especially where there have been recent tree plantings by Million Trees NY. The assigned trainer for these new street trees is Trees NY and they were a wonderful organization to work with. They assisted with every aspect of the program from the initial planning to the implementation. In addition, Brooklyn Shade has a wonderful, cost-effective design for the fences. That organization was also eager to help with the project. Ultimately, the goal is not to just plant the million trees, but to have those million survive so our lives are better.

One measure of success was that of the 22 students who participated in the program, half of them passed the Young Urban Forrester exam, which was a six page, detailed assessment. Many of these students have special needs or have language difficulties. All the students were motivated enough to sit through the test and want to pass it. A handful of them received 60s or 65s and were close to the passing score of 70. Those boys want to try again next year at high school. Beyond the test scores, the success was measured in their level of engagement. And one boy at the end stated that he now wanted to get a job in a greenhouse. To me, that is a successful outcome.

Julio Benoit 803

Street Trees Reflection

In this trees project I have learned about the sad way the trees live in the city. They don't have enough water, decent air, or a clean tree pit. The project in my opinion was a really good idea, and I think some trees will be safe for a while. I would definitely do it again it was a lot of fun to do this project for the 8th grade.

This project was also a good experience to have because then I know what to do in a similar situation. Now I know that it if something happens to a tree at least I know what to do. I think the city should put more attention to the environment, and the trees of this city.

Kellie Pitre 803

"Street Trees"

We are doing an environmental project about street trees and we are helping them to survive. We have been doing this for the past few weeks and we have helped the trees a lot. Our group has helped trees by cleaning around it, planting, cultivating the compacted soil, watering the trees, and much more. I helped doing many of these things just as my class mates have helped. Every group took trees from our community and planted flowers and seeds around it. We did this so the trees would make the neighborhood look pretty and to help the street trees.

We are planning to do so many things for these street trees. Some of the things that we are planning to post new signs up the streets so that people would also start helping them. Also, we are planning to build new fences to trees so that people, animals won't step on them and so that dogs won't leave any waste. Our group is planning to keep watering them and if we got to plant some more we will also help to do this and much more.

I.S. 52- SEAS

Yomaira Martinez
Reflection on Trees Project

What we did so far was study the different kind of trees that are near our neighborhood. Some trees that we studied are called ginkgo, red oak, Norway maple, red maple and more. What we also did is plant flowers; we planted many different and beautiful flowers around the trees. In class we wrote about the things that affect the trees like compacted soil, dog waste, vandalism and there's much more.

What we planned to do with our signs and building a fence is to let our neighborhood know that we want our trees to be saved for the future. The tree will have a posted sign and a fence built around it to help it survive from things that can affect the tree. And the sign posted in the tree is going to help by hanging it in the tree or somewhere were it can be seen. The sign is going to be read by the people that walk around that tree seeing that the trees are important for us!!

Argeny Lopez
Street Trees Experience
Reflection

In this project we learned the use of street trees. I never knew how much these trees give us. One of the most important things they provide us is oxygen, without it we won't be able to breathe. Street trees also give our community beauty and character, especially in big cities. Imagine being trapped in a placed with only buildings and no green space. Lots of people will be stressed.

Our project is about helping these trees and planting flowers. If everybody would just do the same we could have lots of tree. Of course once we planted the trees we have to take care of them to make they do not die. There are plenty of ways we can help them for example, water them especially in summers.

We are planning to post signs that say, "Do not let your dogs pee on trees." This will help people understand that dog waste causes serious harm on trees.

BrooklynShade

How to Build a Tree Bed Guard

December 2010

Overview & Objectives

Building Easy and Effective Tree Guards

Cost and Purchase of Materials

Proper Street Tree Maintenance

Value of Street Trees

Sponsor’s Mission

Why Trees

- CO_2 Sequestration
- Air and Soil Filter (dirt, grit, dust, pollutants)
- Lower Asthma Rates
- Sound Barriers and Dampers
- Screen Unpleasant Views
- Reduce Heat Island Effect
- Reduce Cooling Costs
- Lower Stress
- Increase Mental Health
- Beauty and Character

Causes of Premature Tree Death

Air Pollution & Dust
Low Soil Fertility
Girdling (Guy Wires, Fencing)
Root Girdling
Buried Tree Trunks
Compacted Soil
Dogs

Air/Water Infiltration Barrier
Limited Soil Volume
Bleach & Chemicals
Salt & Waste
Over Fertilization
Cars & Bicycles
Vandalism

Why Tree Bed Guards

Addresses Causes of Tree Damage & Death

- Dogs
- Salt & Waste
- Cars & Bicycles
- Compacted Soil
- Vandalism

Enhances Appearance and Health

- Flowers & Planting
- Reduces Erosion of Ground Cover

Maintenance of Tree Bed with Guard

Water, Weed, Mulch

You are a potential hazard for the Tree!

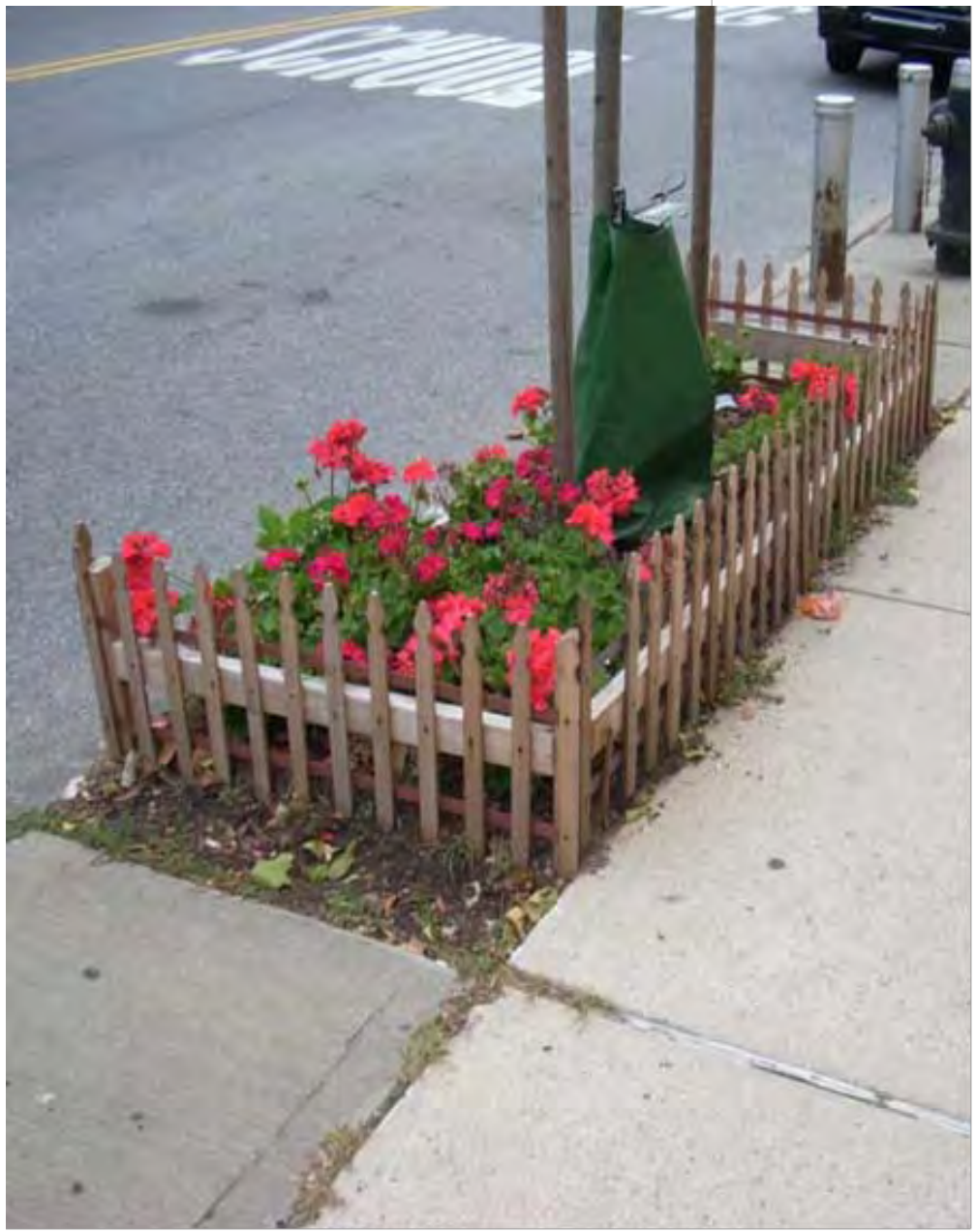
- Incorrect Planting
- Air & Water Barriers
- Trunk Smothering
- Girdling
- Improper Fertilization

Examples

Good Tree Bed Care

Bad Tree Bed Care

Bad Tree Bed Care with Good Intentions



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Build a Wooden Tree Bed Guard
Step By Step Guide

Tool List

Materials (Cost ~$45.00 new)

Design & Layout

Assembly

Installation

Step #1: Get Your Tools

Drill
Saw (Coping, Cross Cut)
Tape Measure
Stake Driver (Hammer)
Square (Straight Edge)
Shovel / Pick

Pencil
Paper
Eraser
Paint Brush
Safety Equipment

Step #2: Measure the Bed

You will need: Ruler, Pencil, Paper, Eraser.

Get as close to the perimeter of the bed as you can.
Examine the quality of ground you need to dig.
Do no harm to yourself or the tree.
Take careful measurements.

Step #3: Design Your Guard

You will need: Pencil, Paper, Eraser, Imagination (or our design.)

Ask yourself how your design protects the tree.
Consider the height of the guard.
Think about the sturdiness and longevity of your guard.
Label your design with measurements and materials.

Safety of pedestrians around your guard is the #1 priority.

Step #4: The Material List

You will need: Pencil, Paper, Eraser

Our Prototype:

Stakes = (4) 1” x 1” x 18” (treated lumber)
Rails = (4) 1” x 3” x 60” (5 foot tree bed)
Pickets = (24) 1” x 6” x 14” (1.5 foot height of guard)
Screws = 64 = 48 (2 for each picket) + 16 (to fasten the rails to the posts)
Fill Dirt
Paint or Stain (to protect the wood from weather)
Mulch or Compost

Step #5: Prepare Your Wood

You will need: Pencil, Square, Ruler, Saw

With your ruler and pencil mark all of your lines.
With your pencil and square mark all of your cuts.
Cut your posts.
Cut your pickets.
You may want to use your first picket as a template for the rest.
Don’t cut your rails.
Paint all of your untreated wood.

Step #6: Drive Your Stakes

You will need: Stake Driver, Shovel or Pick

The stones in your tree bed can be removed to make way for your tree guard.
Dig holes around the perimeter of your bed.
Bury and secure your stakes in the ground.
Careful not to injure the tree roots when you place the stakes.

Step #7: Finish your Tree Guard

You will need: Drill, Screws, Tape Measure

In our design, we leave a gap between pickets of the same width as the picket.

You may want to drill a pilot hole for your screws so you don’t split the wood.

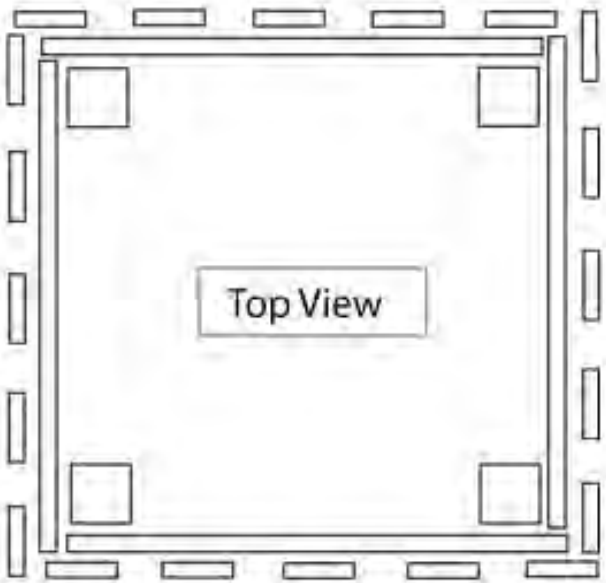
Cut and fasten the rails to your stakes. (Determine if you need more stakes)

Cut the rails to size after you fasten them to the stakes.

Fasten your pickets to your rails.

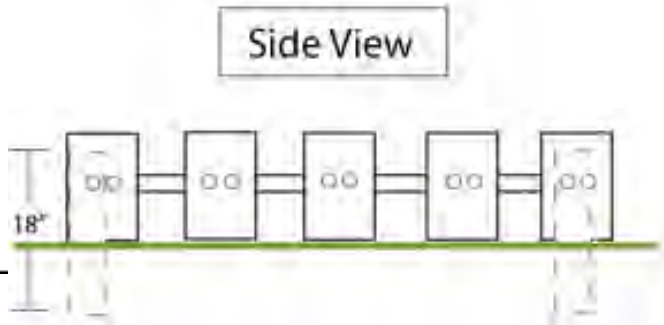
Enjoy your creation.

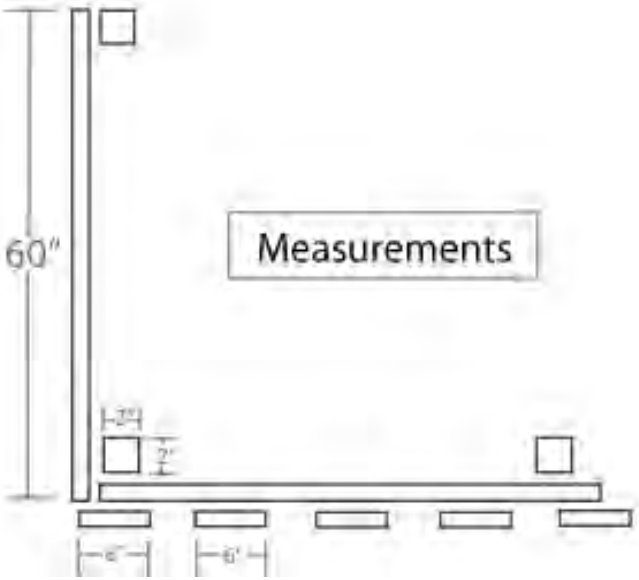
5′ x 5′ Tree Bed Guard



Material List

	TxWxL	Cut From
1. Rails (4)	1" x 3" x 60"	(4) 1" x 3" x 60"
2. Posts (4)	2" x 2" x 18"	(1) 2" x 2" x 72"
3. Pickets (24)	1" x 6" x 14"	(3) 1" x 6" x 144"





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How To Order A Street Tree

Parks Forestry Service Request

http://www.nycgovparks.
org/sub_permits_and_applications/forestry_service_request
.htmlContact

Visit MillionTreesNYC website:

http://www.milliontreesnyc.org/html/involved/request_a_tree.shtml

For More Education

BrooklynShade
www.brooklynshade.org

Stewardship Corps
stewards@milliontreesnyc.org

Become a NYC Citizen Pruner
www.treesny.org/programs.html

Stop Dog's Waste From Killing Trees

Please Curb Your Dog!!

Dog owners should clean up after their dogs. If they don't clean up after them it will do harm to our trees and environment.

Los Perros Matan Los

La orina de los perros mata los arboles.
Dog urine kills trees.
Please curb your dog.

Dogs Kill Our Trees!

STOP KILLING TREES! Please curb your dog when it does its business. Dog poop kills our trees.

- Our trees around our neighborhood helps us have oxygen to breathe.
- Trees provide shade to cool off when it sunny or hot.
- Trees help us have a better city, trees make our world cleaner, it cleans our

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EXAMINATION

TREES NEW YORK **YOUNG URBAN FORESTER CERTIFICATION**

Please Print

DATE: **COURSE LOCATION:**

NAME:

Instructions: Read all questions thoroughly. When you have completed the examination, hand it in to your instructor.

If you are interested in employment and community service opportunities, please be sure to complete the information on the back page.

Passing grade: 70%

True or False (2 points each)

1. T or F Lack of water is probably the most common problem for street trees.

2. T or F Applying mulch is a good thing to do for a street tree because it moderates soil temperature, conserves water, prevents weeds, and looks attractive.

3. T or F Girdling by guy wires, tree pit grates and tree cages can be a serious problem when trees mature to full size.

4. T or F Leaves with brown, papery edges most likely indicate that the tree is suffering from severe lack of water resulting in a condition called marginal leaf scorch.

5. T or F If a tree is suffering from compacted soil, a good idea is to buy fresh soil from a gardening store and pile it at least one foot high around the trunk of the tree.

6. T or F The only way to tell a tree's age is to cut it down and count the rings.

7. T or F In the Northeast, tree roots normally grow only in the top three (3) feet of soil.

8. T or F It is always a good idea to ignore pedestrians who question why you are working on a street tree.

9. T or F To be an effective Young Urban Forester, you not only can care for trees but also can encourage officials to allocate more funds for tree planting and maintenance.

10. T or F Trees can help clean the air by filtering dirt, grit, dust, and other pollutants.

11. List four (4) positive things that street trees do for us. (2 points each)

a.

b.

c.

d.

12. List four (4) stressful conditions that cause problems for street trees. (2 points each)

a.

b.

c.

d.

13. List four (4) things you can do to help street trees survive. (2 points each)

a.

b.

c.

d.

14. The Asian Long-Horned Beetle (ALB) is a threat to New York's urban forest. Which is TRUE? (2 points) The ALB:

a. is a small black bug about the size of an ant.
b. will sting humans.
c. leaves large round holes in the trunk, branches or exposed roots when exiting the tree.
d. favors the red oak tree.

15. What are the three main components of a tree? (2 points)

a. The top, the middle and the bottom
b. The leaf, the bud and the root hair
c. The bark, the phloem and the cambium
d. The leaves, the trunk and branches, and the roots

16. Chaining bicycles to trees: (2 points)

a. Is a city dwellers right
b. Is easy for trees to recover from
c. Damages the bark, inviting infection or disease to enter the tree
d. Is okay if there is not bike rack nearby

17. It is important to cultivate compacted soil because: (2 points)

a. Cultivation helps the roots receive oxygen.
b. Cultivation helps water to penetrate the soil to the roots.
c. Cultivation helps prevent the trees roots from strangling the tree (girdling roots).
d. a and b.
e. b and c.

18. How many gallons of water per week does a newly planted street tree need? (2 points)

a. 1-5
b. 10-15
c. 15-20
d. 45-50

19. Which is (are) true? (2 points)

a. When one part of a tree suffers, whether it be the roots, trunk and branches, or leaves, the entire tree suffers.
b. Water and nutrients are absorbed from the soil by the large scaffold roots.
c. A guy wire that has been left in place too long prevents the cambium layer from making the cells that conduct water and nutrients up and down the tree leading to the eventual death of the tree.
d. a and c.
e. All of the above.

20. You see a dead tree in your neighborhood. Name 2 things you can do about it. (1 point each)

a.

b.

21. When making a map to locate trees, tree professionals use special devices that gather information from a system of satellites positioned around the globe.
What is the name of this system? (2 points)

22. Name two ways the system above can be used. (1 point each)

a.

b.

23. How can we water street trees? Name two things you can do. (1 point each)

a.

b.

24. CAREERS WITH TREES. Write the LETTER of the job description on the right in the blank space next to the career to which they correspond. (1 point each)

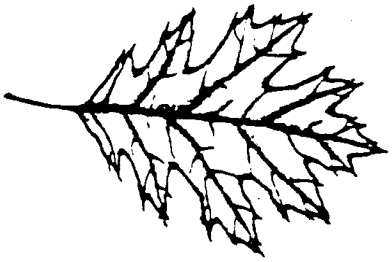
Landscape Architect	_____	A. grows and sells plants and trees for sale to the wholesale or retail market or for private clients.
Nurseryman	_____	B. assesses the environmental impacts of planned construction projects and gives approval to go forward with construction.
Forester	_____	C. manages and maintains the health of forests and woodlands, preserving and conserving them for commercial and recreational uses.
Arborist	_____	D. plants and maintains lawns, gardens, trees and landscapes. Tasks include mowing, pruning, mulching, fertilizing, watering, raking and weeding.
Landscaper/Groundskeeper	_____	E. designs and plans built environments (parks, public and private outdoor spaces, waterways) while preserving natural environments.
Environmental Planner	_____	F. maintains individual trees for businesses, homeowners, utility companies and parks. May include tree climbing or use of lifts or cranes.

Tree Identification

Identify each of the following trees using the picture of the leaf and the clues supplied. You may give either the full common name (example: "Green Ash," not just "Ash") or the full scientific name (example: "*Fraxinus pennsylvanica,"* not just "*Fraxinus"*) spelled correctly.
(4 points each - 1 for the correct genus ("Ash") and 3 for the correct species ("Green")

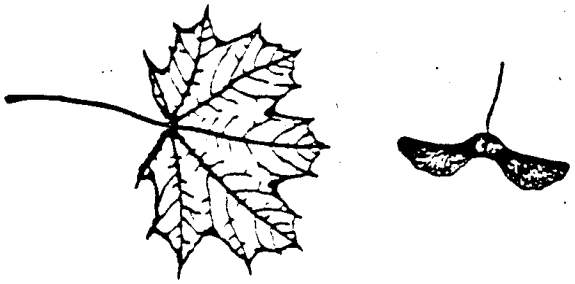
25. Leaves and buds are alternate.
Fruit is a large acorn.
Tolerates alkaline soils.
Lower branches do not droop.

Name:_____



26. Leaves and buds are opposite.
Fruit is a winged seed (samara)
Sap in the leaf stalk is milky white.

Name:_____

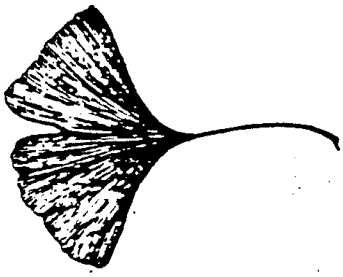


27. Leaves and buds are alternate.
Some trees have long brown pods and large 3-pointed thorns
Leaves are often doubly compound

Name:_____

28. Leaves and buds are alternate.
Called "the living fossil."
Female trees have malodorous fruit.

Name:_____

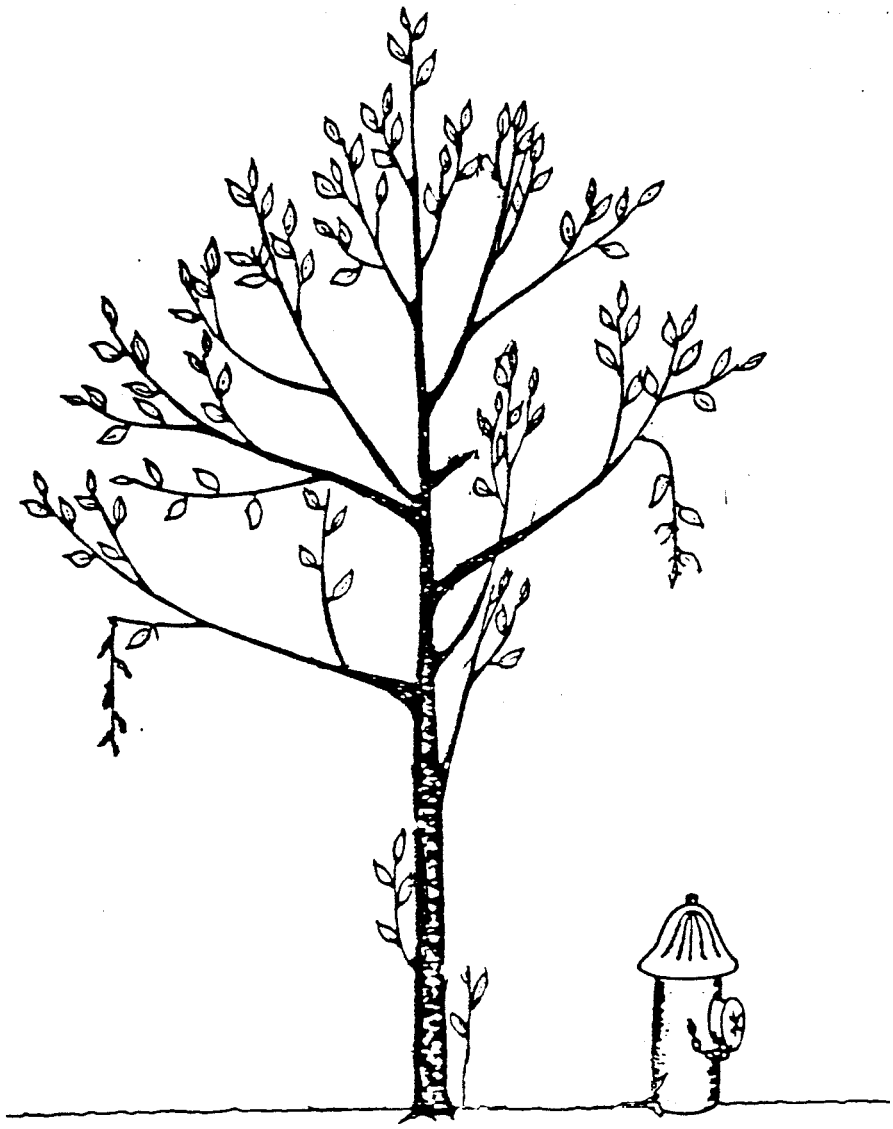


29. Leaves and buds are alternate.
Leaf is 2-4" long.
Base of leaf is asymmetrical.
Fragrant flowers in July. Each flower cluster has a papery wing attached.

Name:_____

Tree Pruning

There is a young callery pear, *Pyrus calleryana* that is growing near a street corner. To improve its looks and to help ensure the future health of the tree, there are many things that should be removed by careful **pruning.** Assume that watersprouts and suckers may be removed without stressing the tree. Circle 5 things that should be removed. (2 points each)



YOUNG URBAN FORESTER REGISTRY

Date_____Location_____Instructor_____

Please fill out this form if you would like to be notified of any employment opportunities and volunteer community service opportunities with Trees New York.

Name _____

E-mail _____

Street Address (optional) _____

City/State/Zip (optional) _____

Telephone (optional) _____

Please take a moment to give us feedback about your experience in the Young Urban Forester program:

Do you notice anything new about trees and nature as a result of taking this course?

What was most memorable for you?

What would you like to do for your neighborhood or community as a result of what you learned in this course?

What does being a Young Urban Forester mean to you?

Any other comments/suggestions/ideas…