TrashMasters!™

REDUCE & REUSE CHALLENGE

Elementary School Division
Queens Borough
Honorable Mention

P 224 @ 26Q

NEW YORK CITY DEPARTMENT OF SANITATION

2004 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 J. Bloomberg, Mayor
Department of Sanitation, John J. Doherty, Commissioner

John J. Doherty, Commissioner
June, 2004

P. S. 224 at 26 Q.

Students Rally Round

To Reduce + Reuse . . .

P.S. 234 at 26 Q. -
Reduce + Reuse

Table of Contents

Identification Sheet

Contest Name: TrashMasters! Reduce & Reuse Challenge

School Number: P.S. 224

School Name: at 26 (the Rufus King school)

District: 75 Borough: Queens

Grade Division: Elementary

School Address: 195-02 69 Avenue Fresh Meadows, NY 11365

Phone: 718-464-4396

Fax: 718-264-1077

Principal: Ms. Rose Tomaselli

Contest Coordinator: Helene Morane Esposito, Science Cluster Teacher

Names of participating students, classes, & staff:

Students: Shakira, Casey, Paola, Reynolds, Julius, Nyasia, Brandon, Aaron, Rickeem, Marissa, Christian, Maybo, Jonathan, Baruch, Juan, Martin, Jason, Abraham, Dasrath, Joshua, Thomas, David, Maurice, Zoraida, Karla, Johnny, Kayla, Joseph, Andrew, Gabriel, Angela, Nick, Walter, Nwanna.

Classes: X11, X12, V31, 564, 565

Staff: H. Esposito, G. Ashton, L. Post, M. Spitzer, S. Presti, DJ Meehan, L. Rios, J. Philippe, A. Bhargava, I. Disla, D. Ayfantis, L. Fleming, A. Martinez, M. Rosales, S. Raza, M. Acosta, M. Lau, D. Tine, G. Maldonado, T. Robinson

Summary of Reduce/Reuse Projects

Within our science cluster, P.S. 224 at 26 Science Students maintain good health practices (Science Standard s4c) & learn about our earth's materials (Science Standard 3). (3a)
We combine a science literacy program throughout our special reduce/reuse project endeavors:

1) We read aloud and completed follow-up projects, Feb., March, April utilizing the following Science Big (& related) Books: "Kids For The Earth"; "Life In A Tree"; "Where Does All The Garbage Go?" by Melvin Berger
Being A Scientist" by Natalie Lunis & Nancy White
"Be A Friend To Trees" by Patricia Lauber
"Flower Garden" by Eve Bunting

2) We viewed the TrashMasters' Videos "Waste Side Story" & "Without You, It's All Just Trash" to help introduce taking care of our environment and the various projects we could do. We did this in February, and our students asked to see them more than once, as they were clever, motivational & informative. We also viewed 2 school-made videos, demonstrating environmental projects former students had completed in 1990 & 1991.

3) We are making preparations to plant 2 trees- a deciduous and a conifer on our school grounds (at April's end). We began discussions of tree planting in March.

4) We began an indoor composting project which we will use to fertilize our indoor & outdoor plants by school year's end. March 2004

5) We reused shredded paper scraps & cardboard paper towel rolls to create a wonderful "Flower Garden" for a wonderful lady, Ms. Sylvia, from Sylvia's Restaurant in Harlem, our recent "Principal for the day". All of our students pitched in to create this beautiful work of "art" during the month of March.

6) We have started to write an "environmentally-aware" song about reducing & reusing, and have connected this to a show our classes are putting on at our school in May, entitled "The Lion King". March, April, ...

7) Some of our students are practicing reducing & reusing at home, for example, Marissa planted a terrific bean and observed and charted its growth; Thomas melted soap end pieces together to create new bars of soap. March + April.

Reduce/Reuse Project Descriptions

1) Big (& other) Book Projects:

a) By reading & sharing the book "Life In A Tree", our objective was to learn about what trees provide us with, and the importance of caring for, saving, & planting them. We learned that trees give us oxygen to breathe, animal homes & shelter, fruit & nuts. As students of good health, we practice yoga, including basic breathing exercises. We have learned the importance of taking in enough oxygen, and through "Life In A tree", we have learned that we get most of our oxygen from trees. We have chosen to contribute to the preservation of trees, by planting our own. At the end of April, we will receive two baby trees from John Bowne's Nursery: A Little Leaf Linden, with beautiful heart-shaped leaves and fragrant flowers, & an Arborvitae, a small evergreen, with narrow, wedge-to-diamond shaped leaves. We have been studying the importance of trees through March and we will continue to discuss how we plant a tree in outside soil, and more specifically, we will learn more about these two beautiful trees we will have grow along side our school, through April, and we will chart and observe their growth and development through the rest of this school year & beyond.

b) By sharing the big book "Kids For The Earth", we were able to reinforce the importance of trees, and also learned more about what we get from trees: wood - to build houses & furniture, and paper.

b) continued...

The objective of our follow-up projects was to concentrate on stopping the waste of paper within our classrooms. We are making every effort to use every part of our notebooks- reducing skipping pages, and lines on a page. We try to use the backs of worksheets, and have chosen to use wipe-off boards to reinforce lessons whenever we can, instead of paper. This project began in February, and is an ongoing one.

c) We read "Where Does All The Garbage Go?" which discusses the importance of making less garbage, by reusing, reducing, & recycling, including composting. At the end of February, we chose to begin an indoor compost in our science room, in a small compost pail we acquired through the Queens Botanical Garden. We took old planting soil and placed it in the pail. We added cafeteria food scraps, such as orange peels and apple skins. We included bread scraps, tea bags and coffee grounds, through the teacher's lunchroom. We also began to put soiled napkins into the compost. We have learned to cut up the scraps into very small peices, and mix them into the soil, while adding a bit of water. Our plan is to use our compost before the school year's end, when it will be ready, to fertilize the indoor and outdoor gardens we are currently planning for Spring.

d) We shared "Being A Scientist" at the beginning of the new year, exploring the tasks scietists do: observe, measure, test, predict, make models, protect the environment & communicate. Beginning in February, we tied each scientific task into our reduce/reuse plans. We began to Observe how much paper we

d) waste everyday, by observing our notebooks, worksheets and trash cans. We touched on measuring the amount of garbage by taking a yardstick to our garbage cans and measuring the height. We tested batteries present in our science room for flashlights, radios, electricity experiments,...to see if they were working or not, and we discussed proper disposal of non-working batteries. We made a prediction, by posing the scientific question: What will happen if everyone chooses to do at least one thing each day to reduce garbage? Some basic responses: "We will live in a cleaner, healthier world!" "It won't smell so much!" We made models as we created a beautiful flower garden out of "recyclables"; and we created a "makeshift" version of paper recycling machines. We chose to protect the environment, as we try to reduce the waste of paper in school; reuse "throwaways" to create beautiful art & science projects, including one on recycling paper; and compost to keep our plants and earth healthy. We communicate, as we have recently begun to focus more on talking more openly about the various projects we are doing, improving our verbal communication skills, as well as our science skills & environmental awareness.

e) We read "Flower Garden", which opened us up to the beauty of amazing flowers! We already have a bulb garden planted outside our school, which we will add to after Spring break. However, our objective in March, was to reuse materials to create a model of a "flower garden", and present it to Ms. Sylvia, owner of Sylvias Restaurant in Harlem, N.Y.C. She was our "Principal for a day", on March 26th. During the month of March, all our students busily colored shredded paper

e) scraps that were to be thrown out. One of our classes (X11) painted an old shoe box and some cardboard paper towel rolls. We used the shoebox to create the flower box, the cardboard rolls to make stems & leaves, and the colored paper scraps for "exotic" flowers (thereby, also, reinforcing the parts of a flower). Sylvia Loved it!

f) "Be A Friend To Trees" reinforced the importance of trees, & also taught us a little more about recycling paper and other materials of earth. We began to reuse our leftover shredded paper scraps to further understand the process of recycling paper. By ripping up the shredded paper into even tinier pieces, using some water, and an old blender, old screen, an old flat baking pan & rolling pin, we were able to model the process of recycling paper. we began this in April.

g) In April, we began to write a song to reinforce reducing & reusing, deciding to use the tune to one of our "Lion King" songs, a show our students are participating in at our school this May. This is it thus far:

"Oh, We Just Can't Wait, & So We Sing!" (tune: "I Just Can't Wait To Be King!" by Elton John & Tim Rice)

It's gonna be a mighty world
If everyone's aware
'Cause we've never seen our earth before
with quite so much trash here
It's got to be the main event,
like no event before
Reducing & reusing trash
is what we've got in store
"Thus far, a rather uninspiring thing!"

g) Oh, we just can't wait & so we sing!:

Everybody do this

Everybody reuse

Everybody stop trash

Everybody reduce

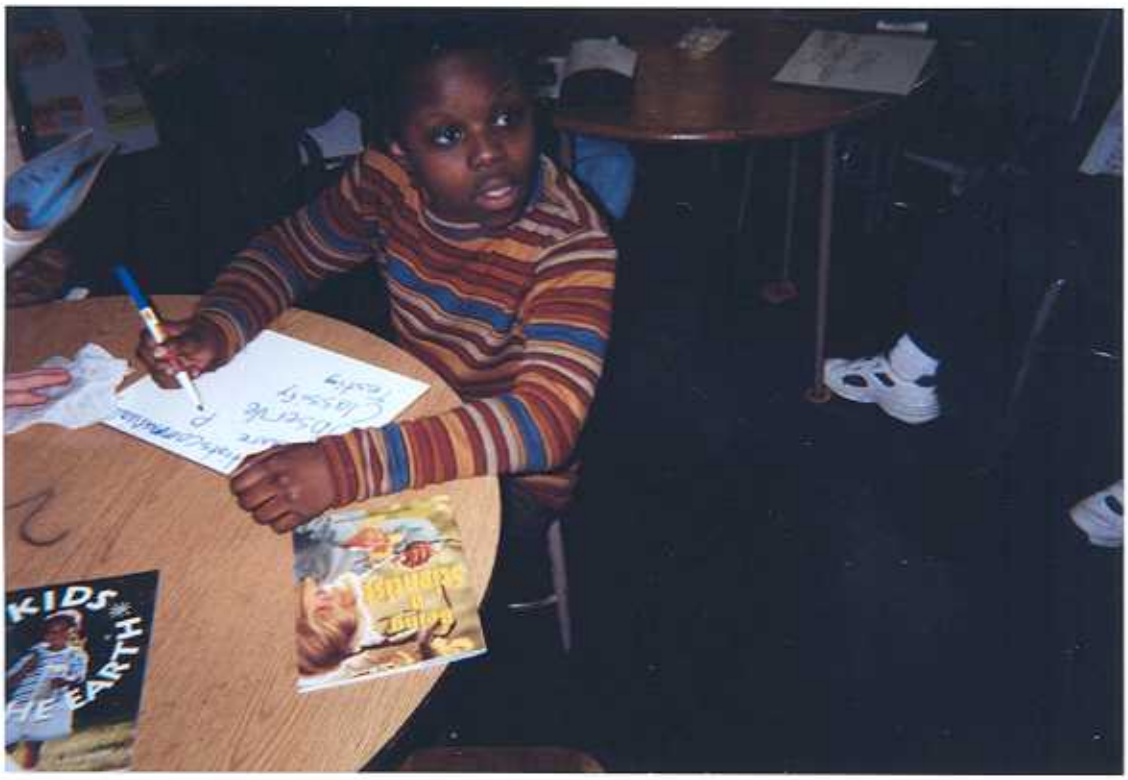
Free to live on earth that's clean

Free to share an earth that's green...

We will continue this after spring break and throughout the rest of our school year, to inspire our students and others!

-This was typed on recycled paper, using an environmentally-friendly typewriter...

Photo Samples of Reuse/Reduce Projects at P.S. 224 at 26 Q.



students reuse wipe-off boards to reduce paper waste.

Students

Reuse

Shredded

Paper

Scraps ...

To Create a Beautiful Flower Garden...

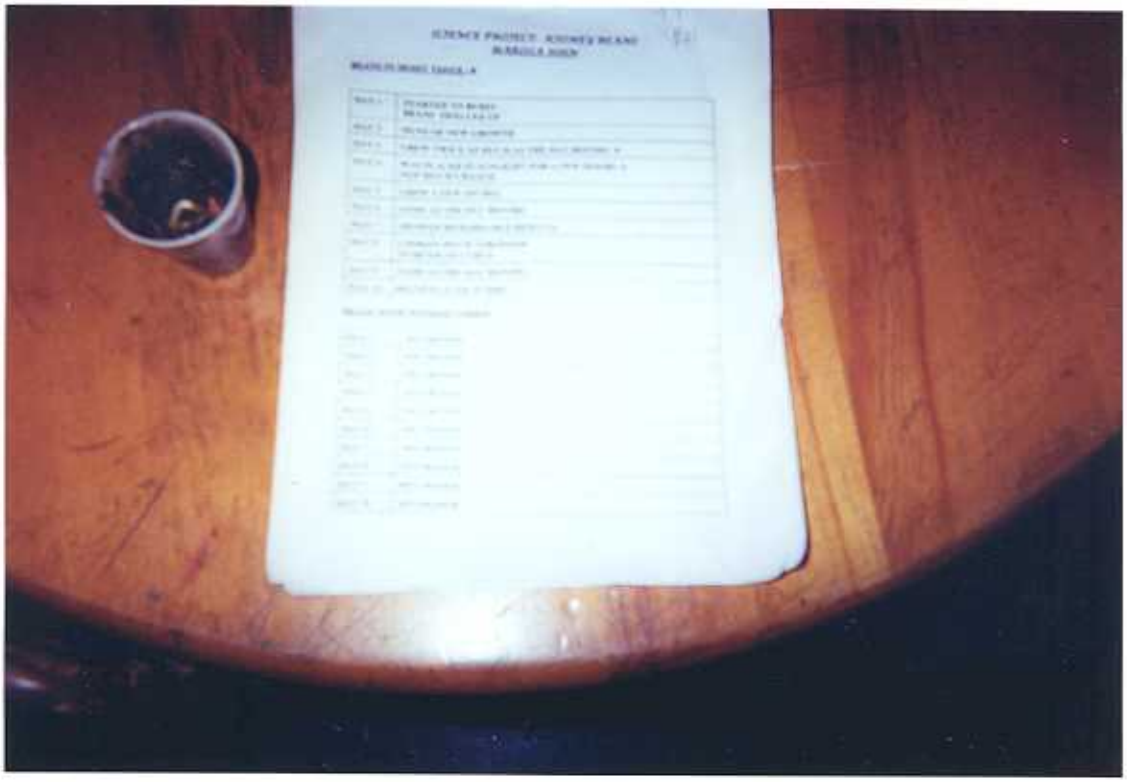
... And to learn about the process of recycling!

Students

Cut

Up . . .

... & Mix Up Cafeteria Food Scraps in an Indoor Classroom Compost!



Marissa, one of our wonderful students, planted a kidney bean, instead of discarding it, and observed its growth during the month of March.

Marissa's project added oxygen to our air & helped "reduce" the "reduction" of oxygen on earth due to too many of our trees being cut down.

Marissa's observations of her Bean Plant

3/31/84

1/31

SCIENCE PROJECT: KIDNEY BEANS

MARISSA JOHN

BEANS IN MOIST TISSUE :☆

DAY 1	STARTED TO BURST BEANS SWELLED UP
DAY 2	SIGNS OF NEW GROWTH
DAY 3	GREW TWICE AS MUCH AS THE DAY BEFORE ☺
DAY 4	WAS PLACED IN SUNLIGHT FOR A FEW HOURS ☼ NOT MUCH CHANGE
DAY 5	GREW A FEW INCHES
DAY 6	SAME AS THE DAY BEFORE
DAY 7	SHOWED REMARKABLE RESULTS
DAY 8	LOOKED MUCH STRONGER STARTED TO CURVE
DAY 9	SAME AS THE DAY BEFORE
DAY 10	BEANS PLACED IN DIRT

BEANS WITH NOTHING ADDED:

DAY 1	NO CHANGE
DAY 2	NO CHANGE
DAY 3	NO CHANGE
DAY 4	NO CHANGE
DAY 5	NO CHANGE
DAY 6	NO CHANGE
DAY 7	NO CHANGE
DAY 8	NO CHANGE
DAY 9	NO CHANGE
DAY 10	NO CHANGE

Marissa John
V3/1

BEANS IN WATER:

DAY 1	**STARTED TO BURST** **BEANS SWELLED**
DAY 2	**SIGNS OF NEW GROWTH**
DAY 3	**GREW TWICE AS TALL AS THE DAY BEFORE**
DAY 4	**PLACED IN SUNLIGHT** **NOT MUCH CHANGE AS THE DAY BEFORE**
DAY 5	**GREW A FEW INCHES TALLER**
DAY 6	**SHOWS SIGNS OF WEAKNESS** ⊗✂ **BROKE IN HALF**
DAY 7	**NO CHANGE** ⊗
DAY 8	**NO CHANGE**
DAY 9	**NO CHANGE**
DAY 10	**NO CHANGE**

Forthcoming Project: Planting Trees - to lessen the reduction of trees in our environment!

FREE TREES FOR 2004 ARBOR DAY

(All trees have been growing successfully in John Bowne's Nursery and are acclimated to New York City conditions.)

Green Ash (Fraxinus pennsylvanica)

The ash is a vigorous, spreading tree, which can grow to 70 ft. in height, producing dappled shade. It prefers neutral to alkaline soil and full sun and can tolerate dry conditions. The olive-green compound leaves have approximately 7 leaflets, turning light yellow in autumn; small male or female flowers are produced in spring or early summer. Ashes are woodland trees, common in Europe, Asia and North America.

Little Leaf Linden (Tilia cordata)

Lindens are cultivated for their stately habit, beautiful heart-shaped foliage and fragrant flowers. The mature tree can grow to 90 ft. in height and produce deep shade. The tree grows well in full sun or partial shade. It needs moist, well-drained alkaline or neutral soil, but can tolerate acidic soil. The simple ovate to rounded leaves are deep green in summer and turn yellow in fall; the small white to yellow flowers bloom in June. Lindens are native to North America, Europe and Asia.

Arborvitae (Thuja occidentalis)

This small evergreen tree grows in conical or sometimes columnar shape, with scale-like, narrow, wedge-to-diamond shaped leaves. Both male and female cones are produced. Trees may grow to 20-30 ft. in height and are suitable for hedging, which should be pruned in late spring or early summer. It needs deep, moist, well-drained, somewhat acidic soil and is shade-tolerant. The arborvitae is native to Eastern North America.

Eastern White Pine (Pinus strobus)

This pine is slender and conical when young, becoming irregular with age. It grows to a height of 25 feet, with smooth gray bark that becomes black and cracked. It features slender, gray-green needles (leaves) and cylindrical, tapered green female cones that ripen to brown. The tree can be planted alone or as part of a hedge. White pine can tolerate any well-drained soil, but needs full sun. Eastern white pine is native from Newfoundland to Georgia in the United States.

Soil pH test kits may be purchased from Cornell Cooperative Extension, for a small fee. The number for the NYC Office is (212) 340-2900.

Tree Planting Instructions for Arbor Day

2 ACTIVITY SEVEN

How to Transplant

Objective

To assist students in the proper transplanting process that will result in a healthy, established tree.

Background

Transplanting produces a shock to a tree's growth system. It must be done in a way that creates as little stress as possible. Especially critical is the danger of water loss.

Preferably, the Arbor Day tree will be a small containerized one. It may also be one that is **"bare-root,"** with the roots wrapped in plastic or burlap. At all times, care must be taken to keep the roots moist, but not wet. (Larger trees, which may be **"balled-and-burlapped,"** will not normally be trees that young students will plant without professional assistance.) If the tree is delivered before the planting day, it should be kept in a cool, dark place.

MATERIALS:

Digging Tools (such as spades and/or shovels)

Watering Cans or Jugs (A perfect container is a one-gallon milk or water jug that students can often decorate as part of an art lesson.)

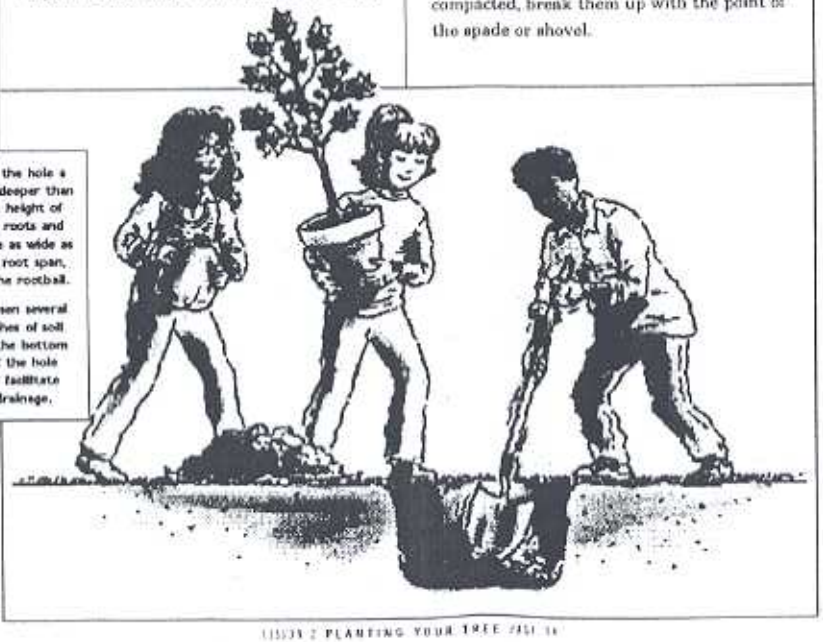
Organic Material (such as shredded leaves or prepared compost)

A Sheet of Plastic or Old Newspapers

Procedure

1. Dig the hole for the tree in the selected spot, twice as wide and twice as deep as the root mass of the tree. Save the soil on the piece of plastic or on newspapers.

2. If the sides of the hole are shiny and compacted, break them up with the point of the spade or shovel.



Dig the hole a foot deeper than the height of the roots and twice as wide as the root span, or the rootball.

Loosen several inches of soil at the bottom of the hole to facilitate drainage.

3. Put some of the loose soil you have dug back into the hole and press it down to make a solid base for the tree roots.

4. Pour one gallon of water into the hole and let it absorb.

5. Place the tree carefully in the hole, making sure the roots do not curl around the trunk. The roots should be arranged to go outwards in a circle away from the trunk. Make sure the roots do not cross each other.

6. Using the remainder of the dug soil, fill in carefully around the roots, pressing down firmly.

7. **IMPORTANT:** Make sure the trunk of the tree is above the ground and the roots are below. The bottom of the trunk spreads out slightly in an area called the **flare**.

The flare should be above ground, right where the tree meets the surface of the soil.

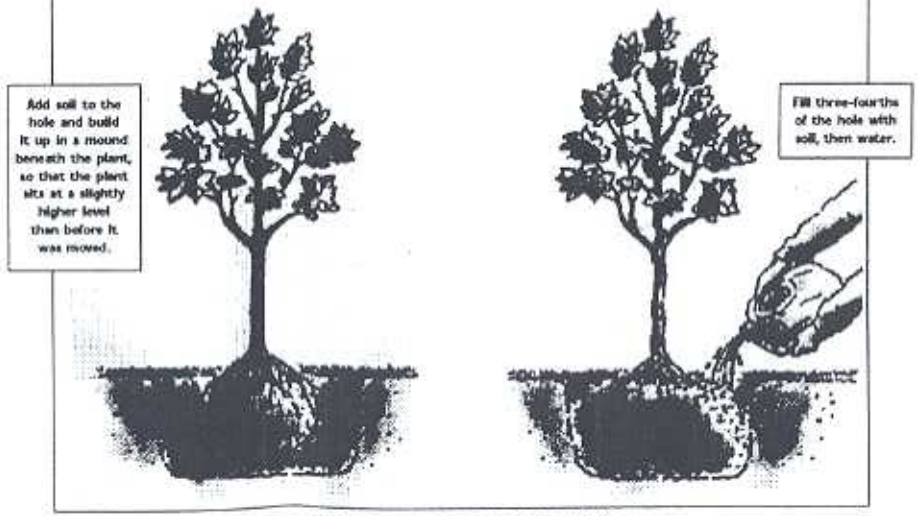
8. Form a small basin of soil around the trunk, to prevent water run-off.

9. Water thoroughly with 2-3 gallons of water.

10. Cover the top of the tree pit with shredded leaves or prepared compost.

11. Make a watering schedule. Water with 8 gallons of water once a week.

12. If the soil around the tree becomes compacted, loosen gently with hand trowels so water can penetrate the soil.



Add soil to the hole and build it up in a mound beneath the plant, so that the plant sits at a slightly higher level than before it was moved.

Fill three-fourths of the hole with soil, then water.


Shakira Mom
DaD
Sare
our
Trees

Reduce and Reuse

Paper

Newspa