



LIFE LAB

Science Program 

Our Mission is to Inspire Learning and Conservation by Engaging Students and Educators in the Natural World.

INSIDE:

**RECIPE:
ROASTED ROOTS**

WORMS, WORMS, WORMS

**LIFE LAB'S ANNUAL
BENEFIT EVENT:
THANKS TO ALL!**

**ACTIVITY:
BRINGING IN THE
CLEAN-UP CREW**

**LIFE LAB 2008 EVENTS
CALENDAR**

LIFE LAB STAFF:

**GAIL HARLAMOFF
JOHN FISHER
AMY CARLSON
ORLI LOEWENBERG
DEB BOLT
WHITNEY COHEN
JOYCE HILL
STEWART JENKINS
DORON COMERCHERO**

**WWW.LIFELAB.ORG
831-459-2001**

THE GARDEN TIMES

Watch learning come to life in the garden!



Winter 2007

FOOD SCRAPS FOR WASTE FREE SCHOOLS



The Waste Free Schools Program (WFS) is an innovative, collaborative, program which assists Santa Cruz county schools in institutionalizing on-campus recycling, reduce, reuse and composting programs while promoting environmental awareness for students and school staff. The WFS Program is a joint program of the County of Santa Cruz, the Santa Cruz County Office of Education, Ecology Action and Life Lab Science Program.

The WFS program works directly with teachers and students to make a positive impact on the environment through an intensive waste reduction program. School staff, who act as site leaders, receive professional development workshops to integrate curricular activities related to the science and ecology of waste management and resource conservation. Students learn to limit waste by reducing their use of paper and packaging, reusing and recycling as much as possible and composting food waste. During the 2006-2007 school year the thirty-three schools participating in WFS diverted 1,690 tons of trash. The cost savings totals for the schools and their districts was over \$80,000 for the year.



For the past two years, Santa Cruz County has been piloting a new food scrap collection program including five schools involved in the WFS program; Del Mar Elementary, Green Acres Elementary, Soquel Elementary, Main Street Elementary and Santa Cruz Gardens Elementary. Students and staff have been trained in separating food and soiled paper from recyclables and regular trash. Food scraps, napkins and paperboard trays are deposited in special waste bins and carts, that are then transported by Green Waste Recovery to the compost area at the Santa Cruz County's Buena Vista Landfill and converted into compost.

In addition to schools, there are more than 30 local restaurants, grocery stores, and assisted living facilities throughout the county participating in this groundbreaking project. Staff at participating businesses have been trained in separating food and soiled paper from recyclables and regular trash. Biodegradable bags made out of cornstarch and other natural materials are used in place of regular plastic bags.

The objective of this pilot research project is to identify, using a small-scale operation, cost parameters and operational issues (and their solutions) as a precursor to a subsequent expanded program countywide for both commercial and residential

continued on next page...

Roasted Roots



Time: 45 minutes

Materials:
baking dish with lid
knife
cutting board

Ingredients:

2 russet potatoes
3 purple potatoes
3 beets
1 sweet potato
1 parsnip
2 carrots
1 large white onion
4 cloves garlic
1/4 cup olive oil
sprig of rosemary
salt
pepper

Directions:

Preheat oven to 400°.

Cut root vegetables into 1 inch cubes.

Place all vegetable cubes into a baking dish with a lid.

Peel and slice garlic and onion; sprinkle over root vegetables.

Pour olive oil over entire dish. Mix well, salt & pepper.

Place a sprig of rosemary in the center of the dish and cover with lid.

Place dish in oven and bake at 400 degrees until veggies are soft, approximately 45 minutes. (For shorter baking times, you can cut veggies into smaller cubes.)

Remove from oven and adjust salt and pepper to taste.

FOOD SCRAPS CONTINUED...

food waste. Food waste represents about 33% of the residential waste stream and 27% of the commercial waste stream. In total, about 30,000 tons of food waste are disposed in the Buena Vista Landfill annually.

When the trucks full of food waste arrive at the Buena Vista Landfill compost site the material is turned over to Vision Recycling for composting in an enclosed system. The food scraps are shredded and mixed with yard waste then packed into heavy plastic sausage-shaped bags about eight feet in diameter and 80 feet long. During the 14 week composting period the material is aerated and temperatures are monitored. Before the compost is ready to use, it is screened to remove any oversize material.



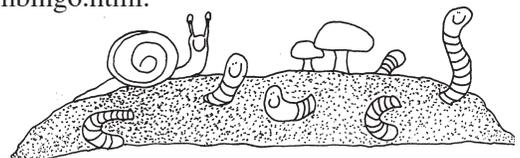
Food waste creates especially rich, black compost that is perfect for reconditioning soil due to its diverse feedstock. The result is less waste in the landfill, lower garbage pickup costs for participants, a valuable soil amendment—and, a gratifying sense of completing a circle—sending nutrients back to the earth.



For more information on the Waste Free Schools Program: www.lifelab.org
Information for this article was used by permission from: www.compostsantacruzcounty.org

WORMS, WORMS, WORMS

Vermicomposting is a simple, efficient composting system that appeals to many people, especially those who mainly compost food waste or have a small space in which to compost, like a school garden or classroom. Getting started requires only a lidded container, redworms, some bedding (such as newspaper) for the worms to live in, and food scraps. Maintenance is simple: bury food scraps in the bedding, add new bedding occasionally, and harvest the digested results, known as castings. You can harvest finished worm castings in four months, and these crumbly, brown castings have a higher nutrient content than many other composts, and can be added directly to your garden beds. For schools in Unincorporated Santa Cruz County and Scotts Valley, Karin Grobe is our local “Worm Doctor”. She is available to present a free program to teachers and students to bring composting with worms into the classroom. Please see more on school composting at www.lifelab.org/wormbingo.html.



LIFE LAB'S ANNUAL BENEFIT EVENT:

A TASTE OF THE HARVEST

On September 15th Life Lab celebrated its 28th year with the A Taste of the Harvest annual benefit event. Life Lab friends and supporters joined together in the Garden Classroom to enjoy a delightful evening of local wine & beer paired with amazing food, prepared by Chef Jon Dickinson of Café Cruz. Guests strolled around the garden enjoying the sweet folk sounds of our farm band, *The Rolling Cultivators*, and bid on silent auction items of wonderful local art, gifts and services donated to help sustain Life Lab educational programs. Many thanks to all of our supporters, contributors, and volunteers for the event!

* Join us again next year on September 13, 2008. *

- | | |
|---|--------------------------------|
| Actor's Theatre | Pacific Coast Mushrooms |
| Bargetto Winery | Pacific Cookie Company |
| Bay Photo Labs | Pacific Edge Rock Climbing Gym |
| Byington Vineyard and Winery | Palace Art and Office Supply |
| Café Cruz | Paper Vision |
| Café Sparrow | Phil Foster Ranch |
| Center for Agroecology and Sustainable Food Systems | Raging Waters Theme Park |
| Chaminade at Santa Cruz | Regal Entertainment Group |
| Children's Discovery Museum | River Street Café |
| Companion Bakers | Roaring Camp Railroads |
| Cooper-Garrod Estate Vineyards | Santa Cruz Mountain Brewing |
| Coastanoa | Santa Cruz Seaside Company |
| Dancercenter | Seabreeze Cafe |
| Dharma's Restaurant | Seymour Center |
| Driscoll's | Shadowbrook & |
| Eco Goods | Crow's Nest |
| Erika | Shakespeare |
| Perloff | Santa Cruz |
| Frans | Shen's |
| Lanting | Gallery |
| Gabriella | Simply |
| Café | Nutri- |
| Gayle's | tious |
| Bakery | Spa |
| Gilroy | Fitness |
| Gardens Family | Staff of Life |
| Theme Park | Stephanie |
| Green Valley Grill | Rosenbaum |
| Harley Farms | Sunset Books |
| Jim Booth Swim School | Sylvan Music |
| Kayak Connection | The Baglery |
| Kiva Retreat House | The Buttery |
| Laurie Broderick-Burr Yoga | Tod Haddow |
| Lifestyle Culinary Arts | Upper Crust Pizza |
| Live Earth Farm | Veronique Marks |
| Luke Keegan Ceramics | Well Within Spa |
| Lundberg Studios | Westside Animal Hospital |
| Monterey Bay Aquarium | Willis Preston Campbell |
| No Ememy | Winchester Mystery House |
| | Zayante Vineyards |



Bring in the Clean-Up Crew

From: *The Growing Classroom: Garden-Based Science*



Description: Students bury various objects in the ground and dig them up weekly to observe changes.

Objective: To observe the rate of decay of various materials.

Materials:

- * Various decomposing and non-decomposing materials: metal, glass, plastic, rubber, vegetables, bone, wood, paper, plastic, etc.
- * Shovel
- * Markers, sticks, stones
- * Science journals

Action:

1. Have students take the various different materials you have gathered and bury each item in a different hole, all at the same depth. Have them mark each spot with a stick or a stone, and record what they buried in their science journals.
2. Once a week, have students dig up the items and record in their journals how fast and in what ways each item is decaying. (If you think students might damage items when they dig or might have difficulty finding each one, put a screen over the material before putting the soil in the holes.)
3. Expand the activity by placing the same or similar items on the surface of the soil and have students compare rates of decomposition.

Wrap Up:

What factors affected the speed of decay of the various objects? How did the results compare with your predictions? Which of the items we buried would be good items to put in a compost pile?

Thank You To Our Supporters!

California Association of Nurseries and Garden Centers
California Department of Education
California School Garden Network
California Science Project
Center for Agroecology and Sustainable Food Systems
Community Foundation of Santa Cruz County
Healthy Eating Lifestyle Principals, Inc.
Helen & Will Webster Foundation
National Science Foundation
Northern California Grantmakers
Pajaro Valley Community Health Trust
Santa Cruz County Board of Supervisors
True North Foundation
UCSC, Steve Gliessman
University of California Office of the President
Green Waste of Santa Cruz County
...and all of our generous Individual Donors!

Happy Holidays & Warm Wishes for the New Year!

61
Life Lab Science Program
1156 High Street
Santa Cruz, CA 95064
Phone: (831) 459-2001
www.lifelab.org

Nonprofit Org.
US POSTAGE
PAID
Santa Cruz, CA
PERMIT NO. 32



Workshops / Conferences:

Discovering the Garden in Early Childhood Education - February 27. Learn how to incorporate garden activities into a pre-school program or into family life.

Growing Classroom Workshop - March 6-7. Learn to guide children in a garden setting, how to connect your school garden to academic standards, and tips on basic gardening and composting instruction.

California School Garden Network's Creating and Sustaining Your School Garden Workshop - March 15. Spend a day with your school garden team learning basic school gardening skills to keep your garden alive and blooming.

Life Lab / Monterey Bay Science Project Conference - April 19 A one day science conference showcasing science content and educational gardening at CSUMB.

Field Trips / Camps:

Feeling Fine with Fresh Foods, Winter Nutrition Field Trips for 4th & 5th grade - Begin in January.

Spring Break Gardening Day Camp - March 24-28

Seeds of Wonder Field Trips for Pre-school - Kinder.
Begin in April.

Events:

School Garden Bus Tour - January 23. This tour is offered as part of the Ecological Farming Conference. This all day field trip will visit three thriving school programs focusing on Farm to School. For more information visit: www.eco-farm.org.

A Taste of the Harvest: Life Lab's Annual Benefit - September 13. A seasonal tasting benefiting the Garden Classroom Programs. Enjoy hors d'oeuvres, wine, and a silent auction in the beautiful Garden Classroom.

For more information, please see - www.lifelab.org



California Instructional School Garden Program Grant Update

When will the California Instructional School Garden Program funding arrive? For the schools sites where county or district contacts have sent in their award letters, checks were sent on November 30th to the point persons in their office of education. The actual date of when this money will make it to your school will depend on how county/district offices process and distribute the award money. A list of all schools who were awarded CISGP grants is located here <http://www.cde.ca.gov/fg/fo/r9/cisg06result.asp>