

Gardening with Class



Creating and Sustaining Your School Garden

Saturday March 26, 2011

Lexington KY
Sustainable Communities Network

By Jim Embry
<http://sustainlex.org>

Gardening with Class

March 26 Agenda

9am-12 Morning session

Introductions

GHS Merin Roseman

ABCs of school gardens Josh Radner

12-00-1:00 lunch Good Foods Co-op

1:15 walk to Arboretum

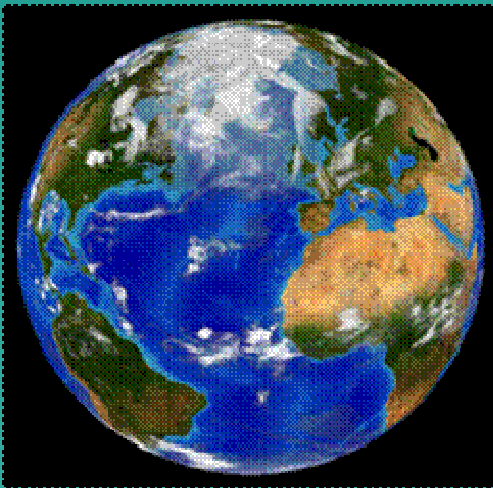
**1:30-2:30 tour of Arboretum...raised beds,
composting, herbs, worm composting, rain gardens**

2:45- 4:00 next steps, garden design,, evaluation,

4:00 adjourn

Creating and Sustaining Your School Garden

Participant INTRODUCTIONS



Name

School/organization

Position

Questions

Sustainable Communities Network

Founded in 2005 community based

- Network of people... **local, state, national, international**
- Contribute to the awareness and practice of sustainable living
- Believe that sustainability movement encompasses all other social movements
- LOCAL FOOD system is foundation of sustainable community
- School/Community gardening is essential to local foods system, citizenship, eco-literacy
- School/Community garden is where children learn citizenship, good eating habits, where food comes from how to work together, sacred Earth Connections, systems thinking

Sustainlex.org

- Local...Climate Action Plan Team, Bluegrass Partnership for A Green Community....Food Sustainability Task Group...county wide vision, policy, Farm to Fork ..founder Good Foods Co-op
- National...Growing Food & Justice Initiative, Growing Power, ACGA, Southern SAWG, SARE, YES! Magazine, Heifer Intl
- International....Social Forum/Brazil/India/, Cuba, Slow Food USA, TERRA MADRE,

Foods & Sustainability

Key Elements that Nurture Sustainable Regional Food System

- Diverse and small local farmers
- Kentucky Proud
- Farmers Markets, CSAs
- Food Policy Council
- Cultural/Oral history
- Farm to Fork/Seed to table projects,
- Farm to Table
 - Farm to school
 - Farm to Faith
 - Farm to Hospital
 - Farm to restaurant
- **K-12, postsecondary education**
- **School gardens/outdoor classrooms**
- Community Research and surveys
- Food Justice
- Bee Keeping
- Seed Exchange, plant exchange
- **Urban Agriculture(BUGS)**
- Rain Barrel/Water conservation
- Natural habitats
- Media support
- Land Conservation easements
- Planning and zoning
- Local Food Processing
- Organizational collaboration

BlueGrass School & Community Garden Network

- Community gardens: homes, parks, schools, faith, hospitals, guerrilla,
- Conferences, educational training workshops
- Composting and disposal
- Garden Tours
- Land Acquisition
- District Community Garden Resource Center
- LFUCG-parks, compost, resolutions
- Planning and zoning
- Rain Barrel/Water conservation
- Community Research and surveys
- Food Justice
- Bee Keeping
- Seed Exchange
- Relationships...UK, LFUCG, 4-H, KGI,
- Food and curriculum integration
- Natural habitats
- Media
- Green House and hoop house
- Local Food Processing

Sustainable World Coalition

**Sustainable Communities Network contributed
articles, photos, quotes**

SCN Classes:

Sustainability 101

Worm Composting

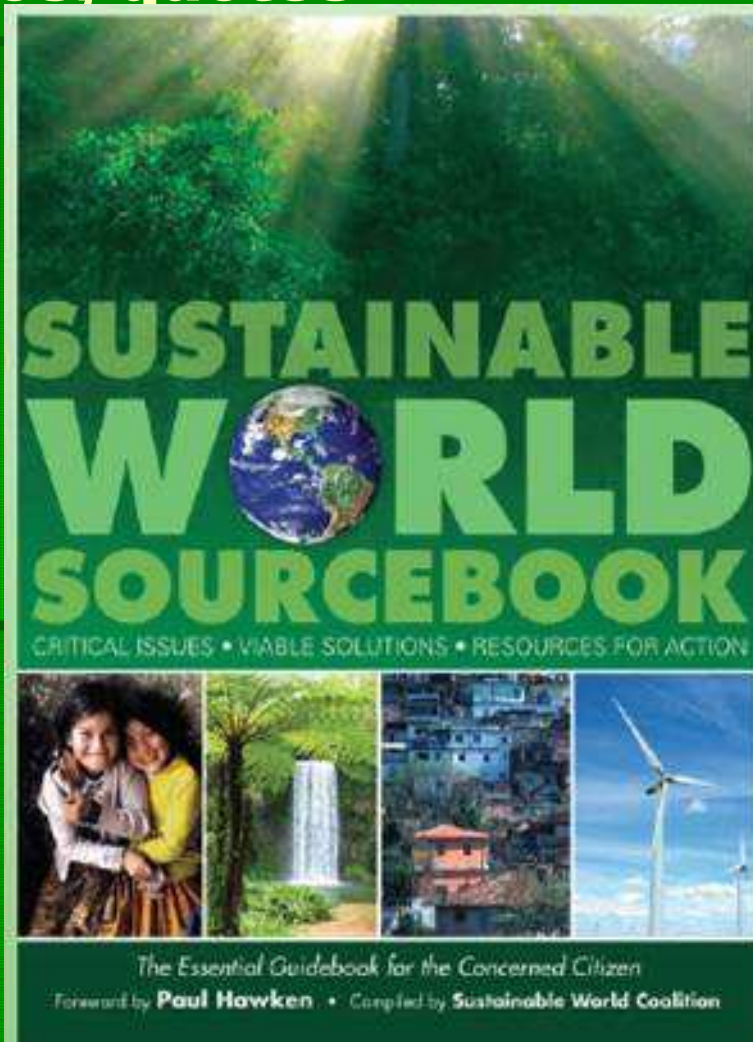
Backyard Composting

Rain gardens

Rain Barrels

Butterfly gardens

Natural Habitats



Faith Community

Workshops

Creation Care

Stewardship of
Creation Retreats

Gardens of Eatin

Sermons

Why Garden?

- Because seeds are miraculous!
- Healthy eating (kids try what they grow)
- Strengthen relationships
- Self-sufficiency, food preservation
- Cooking, leading to better nutrition
- Garden-based learning promotes a sustainable future.





What Research Says

- Children participating in activities from *Health and Nutrition from the Garden* had improved knowledge concerning the benefits of eating fruits and vegetables, and they demonstrated an increase in healthier snack consumption after the study (Waliczek & Zajicek, 2006).
- Third and fifth graders showed more positive attitudes toward fruit and vegetable snacks and an improvement in vegetable preference scores after completing activities from a nutrition gardening curriculum (Lineberger & Zajicek, 2000).
- Garden-enhanced nutrition curriculum improves fourth-grade schoolchildren's knowledge of nutrition and preferences for some vegetables. The results lend support to the inclusion of vegetable gardens within the school setting. Administrators of future school garden projects are encouraged to include a wide variety of fruits and vegetables in their garden programs (Morris & Zidenbert-Cherr, 2002).



What Research Says

- Nationally, about 20% of elementary schools students are overweight. In 2006, 22.5% (58,745) of Utah's elementary school age children were overweight (Utah Department of Health, 2007).
- A school garden can be a hands-on teaching tool affecting students' attitudes and behavior regarding fruits and vegetables (Lineberger & Zajicek, 2000).
- Interest in using gardens for educational purposes has grown over the past decade (Guy, Cromell, & Bradley, 1996).
- Results show once weekly use of gardening activities and hands-on classroom activities help improve science achievement test scores (Smith & Motsenbocker, 2005).
- Skelly and Bradley (2000) noted that not only do gardens need to be installed, but teachers need to learn how to incorporate them into their lessons.



Victory Gardens WWI, WWII

“Fenway Victory Gardens” are located in the Fenway area of Boston, Massachusetts. Est 1942

- 2007 American Community Garden Association Conference in Boston.....2009 in Columbus, Ohio
- The Fenway Victory Garden.... more than 500 plots,

Kentucky Garden is one of Cleveland's oldest community gardens formed in 1940s

There is a children's book based on Kentucky Garden. The title is **Seed Folk**.

FOLLOW THE PIED PIPER
Join the **United States**
School Garden Army.



PLANT A VICTORY GARDEN



**OUR FOOD
IS FIGHTING**

A GARDEN WILL MAKE YOUR RATIONS GO FURTHER

Illustration by [unreadable]

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New York City Children's Garden.





Mrs. Obama and Assistant White House Chef Sam Kass were joined by 26 fifth-graders from Bancroft Elementary School for groundbreaking



“Let’s hear it for vegetables!” Obama cheered. “Let’s hear it for fruits!”

“My hope,” the first lady said “is **that through children, they will begin to educate their families and that will, in turn, begin to educate our communities.**”

Our Mother, our home.. Gaia



Earth Community

Sacred connections-we are all interconnected

- Human people
- Air people
- Water people
- Rock people
- Plant people
- Animal people

All our relations

Spiritual Teaching and Quantum Thinking



The environmental crisis is a crisis of education

'The crisis we face is first and foremost one of the mind, perception, and values; hence, it is a challenge to those institutions presuming to shape minds, perceptions, and values.'

David Orr, one of the world's leading environmental educators.

THE VISION: GREEN SCHOOLS WITHIN A GENERATION



"Perhaps never before have the needs of human society and the objectives of education been so closely linked, nor has education ever had so compelling a rationale and so urgent a responsibility to contribute to the societal change needed to ensure the survival of the planet and a sustainable future"

– The Earth Charter

“We stand at a critical moment in Earth’s history, a time when humanity must choose its future.To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth Community with a common destiny.”



UN Conf. Environment... Rio 1987

Earth Charter. .Local Agenda 21..1992

- Gave education a special role in this process. We therefore conclude that **education for sustainability** is an entitlement, should be life long, and be holistic within education programs. From this, a fundamental principle for educators is the need to view the world as an ecosystem within which each individual component, including the human, has its own value in respecting the rich diversity of all cultures. It has **environmental, social, economic, ethical, aesthetic, and spiritual** dimensions.
- **Education for sustainability** needs to be at the core and an integral part of all school programs. It is the responsibility of all teachers to increase the awareness, values, skills, and understanding needed to create a just and sustainable future.

Terra madre®

MINISTERO DELLE POLITICHE AGRICOLE
ALIMENTARI E FORESTALI



Cooperazione Italiana
allo Sviluppo
Ministero Affari Esteri

REGIONE
PIEMONTE

CITTA' DI TORINO



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Terra madre



Slow Food®

Carlo Petrini in Italy
Founded in 1986



Slow Food®













Sam Levin, 15 yrs, USA Delegate..Terra Madre

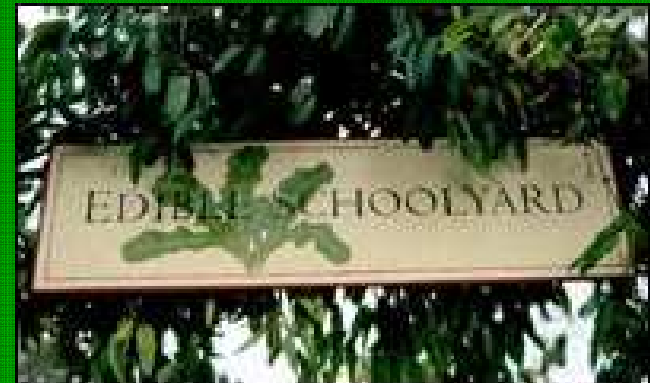




Edible Schoolyard-Alice Waters

The Edible Schoolyard, in collaboration with Martin Luther King Junior Middle School, provides urban public school students with a one-acre organic garden and a kitchen classroom. Using food systems as a unifying concept, students learn how to grow, harvest, and prepare nutritious seasonal produce. Experiences in the kitchen and garden foster a better understanding of how the natural world sustains us, and promote the environmental and social well being of our school community.

Began the spring of 1995





State Law passed 2002, garden in every Classroom

California School garden Network..
csgn.com

Slow Food USA, Terra Madre



What is learned or gained from gardening?

- Life skills
 - Planning
 - Cycles of life and nature
 - Nutrition
 - Hard work
 - Biology, chemistry, ecology and other sciences
- Communication



School gardens offer numerous benefits to children



Let's take a look at the research...

School gardening enhances students' lives



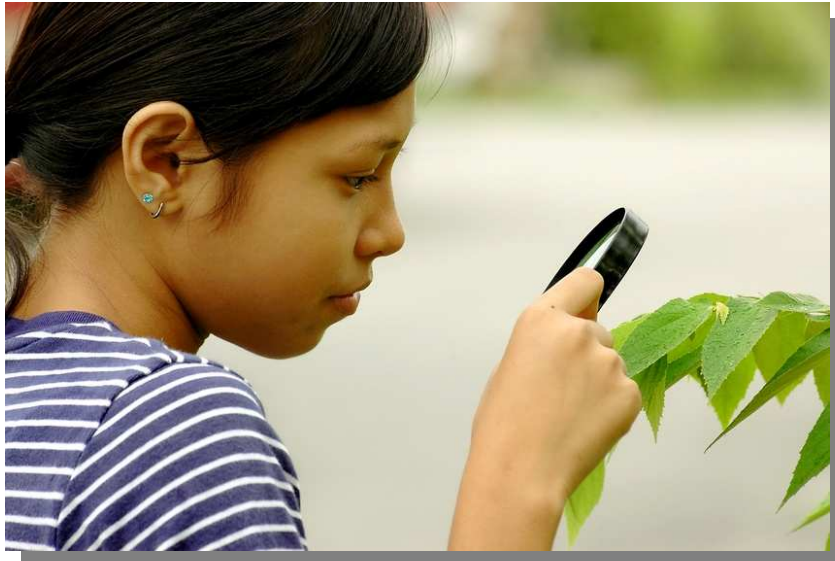
School gardening has been shown to increase self-esteem, help students develop a sense of ownership and responsibility, help foster relationships with family members, and increase parental involvement.

School gardening enhances learning for all students



Children with learning disabilities, who participated in gardening activities, had enhanced nonverbal communication skills, developed awareness of the advantages of order, learned how to participate in a cooperative effort, and formed relationships with adults.

School gardening promotes higher quality learning



Students tend to learn more and better when they are actively involved in the learning process.

School gardening promotes integrated learning



In a project that involved integrating nutrition and gardening among children in grades one through four, the outcomes went well beyond an understanding of good nutrition and the origin of fresh food, to include enhancing the quality and meaningfulness of learning.

Cultural Appreciation



Gardening helps young people understand the value of diversity by exploring historical contributions from cultures worldwide to what we eat today.

Health, Physical Education, Family & Consumer Sciences



After gardening, kids possess an appreciation for working with neighborhood adults, and have an increased interest for improvement of neighborhood appearance.

Diversity



Gardening can be an ideal vehicle for introducing elements of multicultural education.

School Garden Challenges

- Mandatory testing. When or how can I fit a school garden into my curriculum?
- Administration
- Location
- Funding
- Garden knowledge



Restoring our Local Community Food systems

- US once a home of healthy local Food Systems
- After WWII industrial farming methods, mentality, marketing, monopoly and monoculture emerged
- Local food systems slowly dismantled in favor of industrialized, globalized system
- Benefits large agribusiness and supermarket businesses, hospitals

Garden in Every School Initiative

- Purpose: Create opportunities for schools to provide dynamic environments that support student mastery of educational standards. Students who participate in school garden projects also discover fresh food and make healthier food choices, and develop a deeper understanding and appreciation for the environment, the community, and each other.



Kentucky School Garden Network

Growing Food, Health, and Minds One Seed at a Time

State wide network

<http://www.kyschoolgardens.org/>



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- [Getting Started](#)
- [Exploring your School Environment](#)
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- [What is a Green & Healthy School?](#)
- [Why Become a Green & Healthy School?](#)
- [Taking Action](#)
- [Keeping the School Green & Healthy](#)
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Inventories

 Energy	 Health & Safety	 Solid Waste
 Green Spaces	 Indoor Air Quality	 Transportation
 Hazardous Chemicals	 Instructional Leadership	 Water

Earth Charter/Local Agenda 21

<http://www.earthcharterinaction.org>

ECO-Schools of Europe 1995

US Green Schools 2003

KY Green Schools 2007

- Suggested Learning Themes:
- 1. Ecological Systems and systems integrity
- 2. Natural Laws
- 3. Material cycles
- 4. Co-evolution of species
- 5. Global Life support systems
- 6. Conservation
- 7. Synergy
- 8. Human Population and carrying capacity
- 9. Role of democratic participation
- 10. Equity issues, e.g. gender, ethnicity, income
- 11. Health
- 12. Quality of Life indices
- 13. Efficiency of input to output
- 14. Implications of trade
- 15. Debt eradication
- 16. Sustainable reduction of consumption
- 17. Alternatives routes to development

Kentucky Green & Healthy Schools Initiative..2006

Improved health and attendance

Efficient use of energy, water and other vital resources

Reduction of operating costs due to efficiency of resources

Increased sense of ownership by teachers, students and parents

Student involvement in rigorous, relevant and curriculum-aligned learning

Kentucky Green and Healthy Schools Program

2107 Capital Plaza Tower
Frankfort, KY 40601

(800) 882-5271 or (502) 564-5937

<http://www.greenschools.ky.gov/>



"Perhaps never before have the needs of human society and the objectives of education been so closely linked, nor has education ever had so compelling a rationale and so urgent a responsibility to contribute to the societal change needed to ensure the survival of the planet and a sustainable future"

Start a gardencommunity lots, schools, houses of worship, city parks, hospitals, day care centers, senior centers

Learn how to grow healthy food.

Invite neighbors, including those who
may not have sufficient income, to
produce vegetables
for their families.

Bring school children
in to learn the joy of
growing food.



Nature Deficit Disorder

- Richard Louv 2005 book, *Last Child in the Woods*
- Leave No Child Inside
- The growing movement to reconnect children and nature, and to battle "nature deficit disorder"
- Lexington April 28 7pm Sayre School

Catherine Ferguson Academy-Detroit

- Detroit school for teen mothers 6-12 grade
- Working farm in this inner city school
- They raise horses, sheep, goats, chickens, ducks, bees, 100 fruit trees, large vegetable garden...bale 1000 bales of hay, built barn
- Nobel Peace Committee grant to build wind mill and solar collector
- 99% rate of graduation,
- 90% go to post secondary,
- 80% no second pregnancy





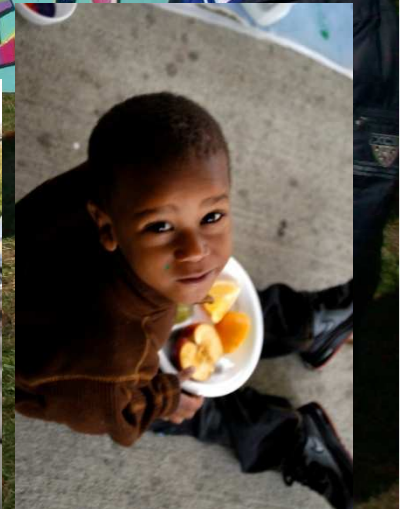
Twelve hundred broilers and 440 lbs of honey will be produced by students involved in the Catherine Ferguson Academy Agriscience Program

THE EMERALD CITY

OPRAH
Magazine
April 2008

URBAN EDEN

A rooster hangs out at the Catherine Ferguson Academy's urban farm in west Detroit. *Opposite page, clockwise from top left:* Gardener Nefertiti Harris and farming movement leader Ashley Atkinson at Romanowski Farm Park. *Patrick Crouch*







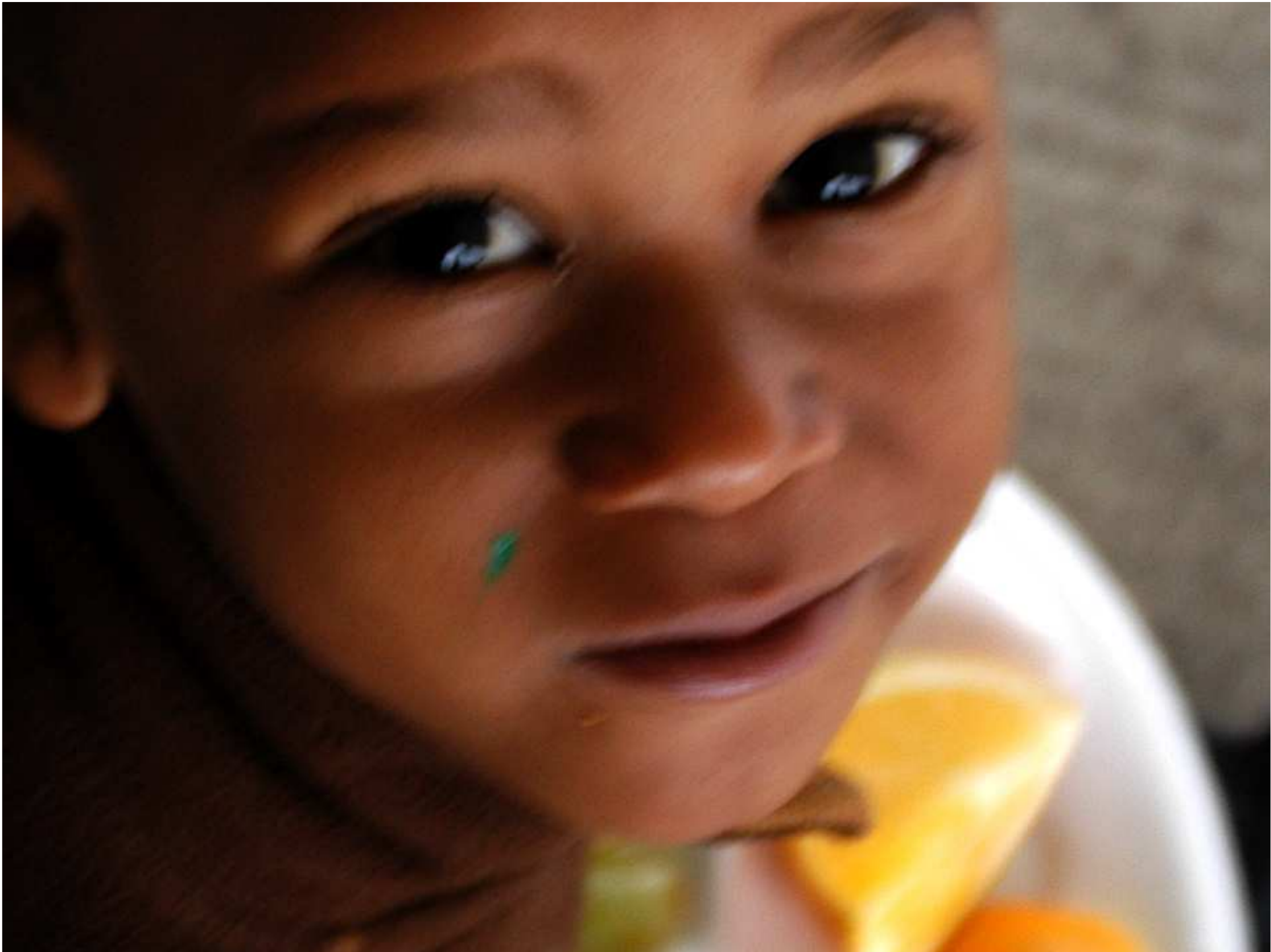














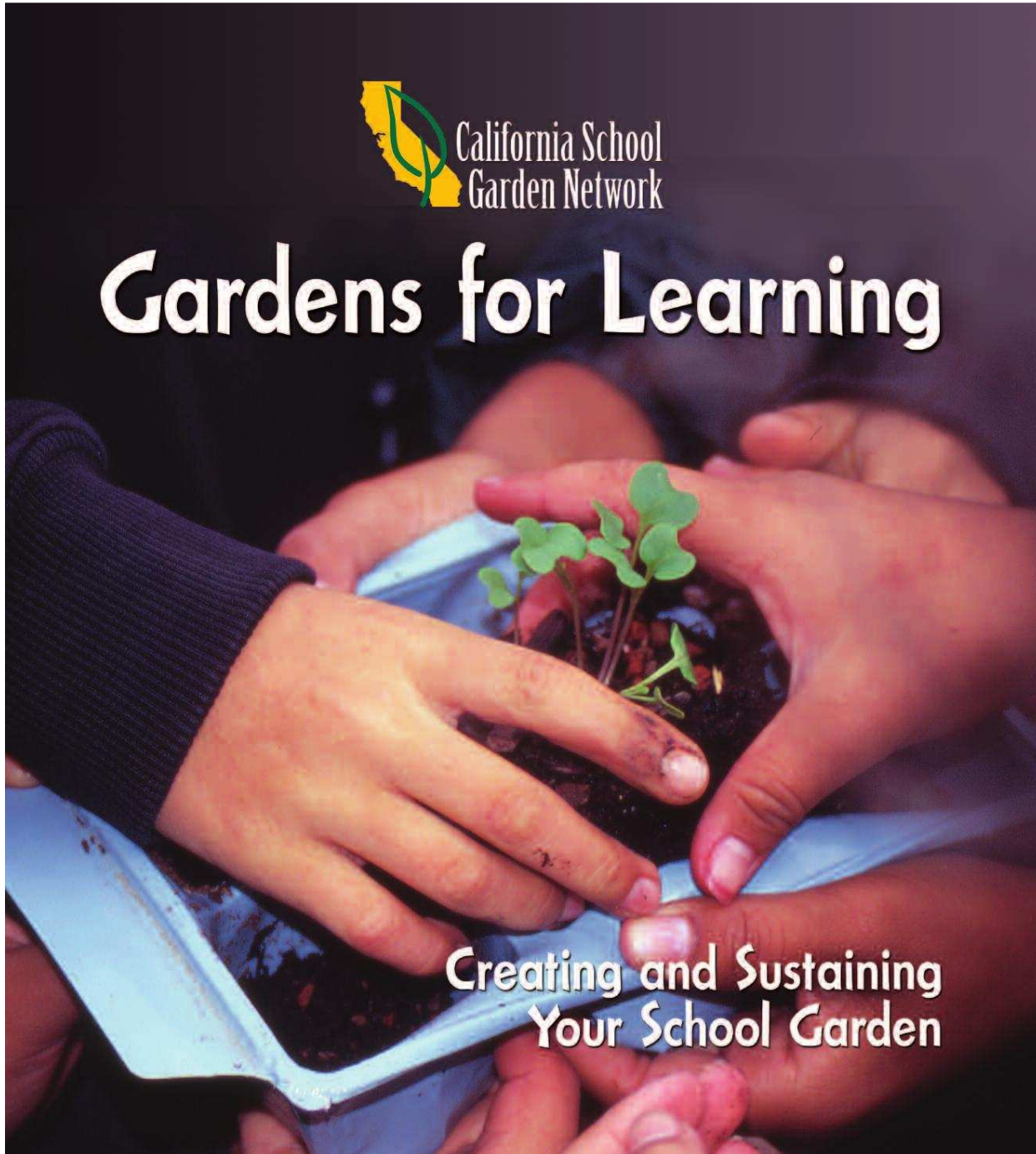
The ABC's of School Gardens





Gardens for Learning

Creating and Sustaining
Your School Garden



Introduction to School Gardens

Planning Your School Garden

Linking Gardens to School Curriculum

Promoting Healthy Living

Designing Your School Garden .

Finding Supplies and Funding Your Garden

Planting Your School Garden..

Maintaining Your School Garden

Sustaining Your Garden

Working with Volunteers

Resources...Next steps

School Gardens impact:

- Academic Achievement
- Healthy Lifestyle
- Environmental stewardship
- Community and Social Development

Children learn Scared Earth Connection



School garden Benefits from research

- Address multiple learning styles
- Provide opportunities for interdisciplinary lessons
- Improve environmental attitudes
- Promote good nutrition and exercise
- Teach patience and responsibility
- Instill a positive work ethic
- Increase self-esteem
- Build classroom relationships, improve teamwork, strengthen school spirit
- Beautify the school environment
- Increase interest in eating fruits and vegetables,
- Significantly increase science achievement scores
- Increase parental and community involvement
- Improve social skills and behavior

Step 1 Planning Your School Garden

•Step 1: Seeking Administrative Approval

Your first step is to gain the support of your school's administrators. Before setting up a meeting, take time to develop an outline of your vision. Begin your outline with ideas for how you can incorporate the garden into the standards-based curriculum as a hands-on interdisciplinary teaching tool, which is a make-or-break element in receiving approval. Also include the ways you think the garden will benefit your students and the community, a list of potential supporters, and a tentative plan of action, including the steps you will take to create a school garden (you can use this chapter as your plan). Developing a thoughtful and professional outline will indicate your level of commitment to the project and will inspire confidence in your proposal.

For most educators, the principal's office will be the first stop. An enthusiastic and supportive principal is key to the development of your school garden, whether approving and arranging teacher time for workshops, or finding and tapping funding sources

Creating a Support Network

Once you have a green light from your administrators, it is time to develop your support network. You will quickly find that garden programs are more work than one person can sustain, so to ensure success, enlist other teachers, school staff, students, parents, and community volunteers to serve on a garden planning and advisory team (which we will refer to as the “garden team”). Members of this team can help you set goals and can provide ideas for ways to integrate the garden into the curriculum. They may promote the program to other parents and community members, secure necessary supplies, provide horticultural expertise, assist with classroom lessons (it is often helpful to have an extra set of hands during classroom gardening projects), or aid in maintenance of the garden. By gathering input and help from a diverse group, you will strengthen the creativity and ingenuity of your program. Their involvement will multiply your resources and create active supporters for your efforts.

Teachers, maintenance staff, Food service staff, students, parents, community volunteers, Boy/Girl Scouts, university students, Co-op Extension

Step 2 Identifying Goals and linking Garden to your curriculum

- Your goals must tie in with your current curriculum.
- A garden is a tool to help you accomplish your learning objectives
- Begin a discussion of academic standards then brainstorm ways to accomplish these learning objectives through garden lessons

Curriculum Integration

- Science
- Mathematics
- History-social science
- English-Language arts
- Visual and Performing Arts
- Health and Nutrition
- Promote healthy living
- Food preparation,

Key Questions to ask

- What topics do you want to teach through the garden
- What plants do you want to grow
- Do you want to use the garden once a year for an depth special study or incorporate it into a year-long interdisciplinary curriculum
- Do you want to develop the garden around a theme or create small garden areas with multiple themes
- Which classes will be involved in the garden and do they want their own space

Goals and Objectives

- **Start small but leave room for dreaming**
- **Set short term and long term goals**
- **Create multi year projects**
- **Get your goals into writing**
- **Create a summary document and get this to all participants**

Step 3

Promoting Healthy Living

- Fruits and Veggies
- Origins of foods
- Healthy food choices
- Food Preparation
- Physical activity
- Farm to school
- Rethinking School Lunch

Step 5 Identifying supply needs and funding needs

- Make a list of materials and supplies needed
- Develop local networks
- Prepare a budget
- Secure donations
- Write grants
- Have fundraisers

Obtaining supplies and Funds

- Seed companies...local and national
- Parents
- nurseries
- Seeds of change
- Universities
- Seed or plant exchange
- Friskars, Lowes, Home Depot, EON, Paul Neuman, USDA,
- Boy/Girl scouts

Step 6 Planting the garden

- Preparing the beds
- Indoor garden
- Outdoor garden
- Container gardens
- Raised beds
- In-ground beds
- Obtaining plants, seeds
- Sowing seeds..in doors and outdoors
- Transplanting plants outdoors
- Provide the right tools..materials...weather conditions
- Publicize planting day
- Have a plan..get volunteers...provide gloves..**bags!!**
- Take photos!

Planting Guides

- Lesson plans
- Frost dates in KY
- Out door management
- Cooperative extension
- Master gardeners
- Vegetables, herbs, fruit
- Theme gardens
- Three sisters
- Harvest tips

Step 7 Maintaining the Garden

Watering

Thinning.....weeding....mulching

Fertilizing....composting

Pests..crop rotation, plant disease, plant for region

Encourage beneficial organisms

Light...nutrients...air..wetness
vandalism

Step 8 Sustaining the garden

- Integrate into the curriculum
- Outdoor management...garden rules, train students to use tools, recruit help
- Find some shade for students to write, retreat from sun
- Use clip boards with pencils attached
- Rotate responsibilities
- Build opportunities for free discovery
- Use small groups
- Be prepared for emergencies

Sustaining the garden

- Document efforts
- Photos, video
- Communicate with support team
- Promote garden to the community
- Garden expansion
- Finding funds and supplies
- Attracting help to sustain the garden
- Summer care and maintenance

Step 9 Working with Volunteers

- Establish roles
- Recruit volunteers
- Orientation
- Training
- Establish roles
- Communication
- Keep record of activity
- Create schedule
- Hold regular meetings
- Retention
- Appreciation

Rain Gardens & Rain Barrels

- Stormwater retention
- Improve water quality
- Enhance landscape
- Water storage
- Native plants and grasses
- Bluegrass Rain Garden Alliance
- 2010 by 2010
- Tax reduction

Publications

- Green teacher
- Kids Gardening
- Edible Schoolyard
- Eco-literacy
- JMG
- Garden Mosaics
- Digging Deeper
- UN School garden manual
- Garden for Learning

Grade Level Plantings

- **Preschool – Color Flower Garden**
- **Kindergarten – Pumpkins and marigolds**
- **1st Grade – Stone Soup Ingredients**
- **2nd Grade – Salsa Garden**
- **3rd Grade - Sunflowers for bird seed**
- **4th Grade - Native American Indian Corn**
- **5th Grade – US History Cotton & Flowers for pressing to make Mother’s Day Cards**

School & Community Activities

- **Weed and Read**
- **Earth Day Celebration**
- **Arbor Day Contest**
- **Family Literacy Nights**
- **Scarecrow Contest**
- **War on Weeds**
- **Service Learning Projects**
- **Collaboration with Horticultural Class**
- **Wedding Receptions / Bridal Showers**

Weed and Read



Grade Levels are assigned specific areas to Weed. Each class spends time weeding and then reads independently or listens to teacher read aloud. This is a favorite activity!

Kindergarten Adds Solar Lights



Harvest Hoorah!



Summer Service Learning



Scouts volunteer to help clean out the pond.



Ten families signed up to weed and water this summer.

HAVE FUN!!!!!!



A close-up photograph of a pair of hands, likely belonging to a child, gently holding a small green seedling with dark soil. The background is a soft, out-of-focus green, suggesting an outdoor setting. The lighting is bright and natural, highlighting the texture of the soil and the vibrant green of the leaves.

“The future belongs to those who give the next generation reason to hope.”

-Teilhard de Chardin