



CREATING DYNAMIC LEARNING COMMUNITIES
at school • at home • at work



Schools Exceeding Expectations (SEE) Conference
Maryville, Tennessee – April 29-May 2, 2009

The G.R.E.E.N. Teacher

Presented by Sue Pearson

2009 SEE Conference – Friday, May 2, 2009

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THE G.R.E.E.N. TEACHER

GENUINE RIGOROUS
ENVIRONMENTAL EDUCATION
Now

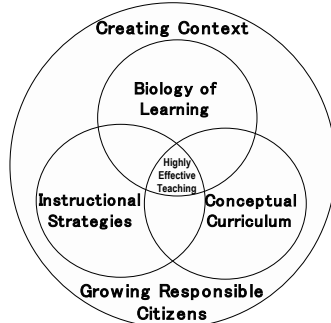
SUE PEARSON
CONSULTANT
2009

“Only within the moment of
time represented by the
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-- man --
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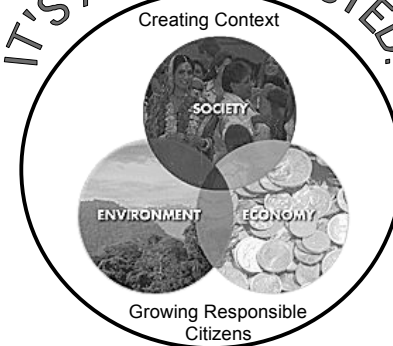
~ Rachel Carson ~



Highly Effective Teaching



IT'S ALL CONNECTED!



G.R.E.E.N. APPROACH

1. CONCEPTUAL CURRICULUM:
STATE STANDARDS
2. ACTIVE MODELING:
SCHOOL/COMMUNITY
3. SOCIAL/POLITICAL ACTION:
PERSONAL RESPONSIBILITY,
PROJECTS, CAMPAIGNS

GREEN CONCEPTS

- Adaptation
- Balance
- Cause/Effect
- Citizenship
- Change
- Conflict
- Connection
- Development
- Ecology
- Growth
- Habitat
- Interdependence
- Legacy
- Nature
- Perspective
- Progress
- Relationship
- Survival
- Systems

BALANCE

- **BALANCE** is when two or more sides of an item or issue are equal power, strength, weight or value. Responsible citizens understand that our environment is “in the balance” or in a critical, undecided state.

COMMUNITY

- A **community** consists of a **group** or set that **exists** and interacts in the same area. If one thing (or part) **changes** or **ceases to exist**, it can affect the rest of the **community**, possibly even **changing** the way the community **functions**. **Responsible citizens** make **wise choices** that **strengthen** the entire **community**.

SYSTEM

- A system is a group of interacting, interrelated or interdependent elements forming or regarded as forming a collective entity. Responsible citizens understand that changes to one part of a system will effect, for better or for worse, other parts of that system.

CAUSE AND EFFECT

- **CAUSE/EFFECT** Cause is an initial action that brings about an effect, which could be a single consequence or a chain of events. Every cause has an effect. Responsible citizens weigh decisions to evaluate the possible effects of their choices.

BEING THERE SITES

- School/Town Offices
- Recycling Centers
- Composting sites
- Water treatment plants
- Dumps/Landfills
- Businesses
- Farms
- Lakes, ponds, parks



ONONDAGA COUNTY G.R.E.E.N. FACTS

- Shred-o-rama (16 tons documets)
- Books (206,312 pounds)
- Cell Phones (485 pounds)
- Electronics (324,166 lbs-1,731 TV's)
- Florescent bulbs (3,002)
- Smoke detectors (200)
- Hazardous waste day-May 3, 2009

DESTINY USA

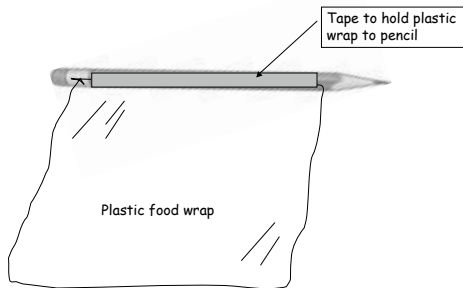
- Brownfield Remediation
- Fossil-fuel free construction site
- Idle reduction policy
- Green parking
- Green power
- Water conservation
- No chloroflorcarbon gases
- Low emitting products (volatile organic chemical)
- Paperless construction site



SUNY ESF

DRAFT-O-METER

- Cut a 12cm by a 25cm strip of plastic wrap
- Tape the shorter edge of the wrap to the pencil and let it hang freely.
- Gently blow plastic wrap and note how sensitive the wrap is to air movement. Drafts mean that air is leaking into or out of a building (loss of heat/winter-loss of air-conditioning/summer)
- Complete the following "Home Draft Checklist" to assess where drafts are in house.
- Complete worm warmers activity to guard against drafts they found in home.



DRAFT LOCATION	No Draft	Draft Ratings		
		1	2	3
1. Exhaust fans-bathroom/kitchen				
2. Dampers woodstoves/fireplace				
3. Doors				
4. Windows				
5. Light fixtures attached to walls/ceilings				
6. Attic door				
7. Window air-conditioning units left in place for the winter				
8. Mail chutes or slots in walls/doors				
9. Cracks in the walls/foundation or holes where pipes pass through				
10. Where porches and steps meet the house.				

WORM WARMERS

- Materials: dry rice/lentils/kitty litter, googly eyes (2 per student), pre-sewn fabric sacks -6" x 38"/stitch up, fabric glue, small cups.
- Make outside-messy inside
- Fill sacks w/rice. Glue oper
- Measure temp before/after



THE GREEN SCHOOL

- Improves education through hands-on, real-world learning about energy and energy efficiency
- Strengthens schools by saving money on energy costs

BENEFITS OF A "GREEN" SCHOOL

- Energy costs decrease
- Student learning increases as do leadership skills (project based)
- Curriculum integration
- Improved staff/student relationships and morale (team effort/collaboration)
- Funding through grants or local/state initiatives

IMPLEMENTATION TIPS

- Identify energy "Champ"
- Establish a GREEN schools team
- Build partnerships
- Adapt project to state/district curriculum
- Identify curriculum tie-ins

IMPLEMENTATION TIPS

- Return a percentage of savings to staff/students for being there
- Identify strong link between energy and the environment
- Establish a baseline of energy use
- Determine the need for retrofits
- Maintain high program identity.

1. START A "GREEN" INITIATIVE

- Develop a GREEN team at your school (Include nurse, PE teacher and custodian/groundskeeper. These people can help educate other employees/parents.

2. MOVE AHEAD WITH YOUR G.I.

- Start small and work up .↑
- Compile a "GREEN" Initiative resource binder
- Build an agenda for environmental practices tied to science lessons but usually also connect to geography, social studies, math and LA.

3. TAKE YOUR G.I. FURTHER

- Help plan a forum on GREEN (and shades of green) schools.
- Might include architects, pediatricians, planners, and other.
- Bring in speakers from local recycling companies and other "green" businesses (malls, colleges, hospitals, and stores).

4. FOLLOW THROUGH WITH G.I.

- Build consensus.
- To prevent resistance, offer "green" strategies as options (unless mandated in your area).
- See whether your local union/organization has a green team, or volunteer to become a "green" union rep at your school along with your union's building rep.
- Reach out to lawmakers-Green funding

PERSONAL TIPS

- In October 2001, a research team of the Penn State Green Destiny Council released a report on the ecological analysis of Mueller Laboratory, a biology building on the Penn State University Park campus. This policy paper, derived from the report, showed how PSU could save 72 acres of forest and over \$120,000/year by reducing the default margin settings campus wide. (1.25 to .75)

PERSONAL TIPS

- Recycle paper in your building. Invite your class to become the "GREEN" Hornets-buzzing around the school to collect paper for recycling
- Monitor electrical use-light monitor
- Compute the cost to run small personal refrigerators in classrooms

Special Events

- Earth Day-April 22nd
- National Green Week-Feb-through April
- Arbor Day-last Friday in April
- Power Down for an Hour Day-March
- National Wildlife Week-3rd week in March
- National "Turn-off TV Day) 3rd wk-Apr/Sept.
- National Environmental Education Week-April-Earth Day Week
- Endangered Species Day-May 15th
- America Recycles Day-Nov. 15th

RESOURCE: GREENTEACHER.COM

- Practical and ready-to-use activities ages 6-18
- Ideas for rethinking education in light of environmental and global challenges
- Resources-many free



REFLECTION QUESTIONS

- What are you doing now?
- How will you connect with local businesses and companies?
- What will your students “take away” and practice at home?
- What personal changes will you make?

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~ Rachel Carson ~



WEB SITES

- Earth Platform-find out about threats www.earthplatform
- Environmental Health Science Education-curricular materials, lessons, prof. dev. [Wwww.niehs.nih.gov/health/scied/](http://www.niehs.nih.gov/health/scied/)
- Kids' Page <http://kids.niehs.nih.gov/hoomie.htm>

WEB SITES

- Green Education Foundation-sponsors 3 campaigns www.greeneeducationfoundation.org
- National Project for Excellence in Environmental Education-free guidelines for EE-all grade levels www.naaee.org
- U.S. Department of Energy-Educators site www.energy.gov/foreducators.htm
- U.S. Environmental Protection Agency (EPA) www.epa.gov/epahome/students.htm

RESOURCES FOR ENVIRONMENTAL EDUCATION

- Alliance to Save Energy: projects www.ase.org/section/_audience/educators
- Green Teacher Magazine www.greenteacher.com
- Teacher Resource Site-HS www.classroomearth.org
- Environmental Education on the Internet <http://eelink.net>