GROWING FERTILE MINDS

Outdoor Classroom Symposium 2009

Outdoor Classroom Strand

Amphibians and Reptiles of Georgia
John Maerz, University of Georgia, Warnell School
www.uga.edu/maerzlab/site/home.html

Making the Shade
Larry Morris, Georgia Forestry Commission
Contact: lmorris@state.gfc.ga.us
www.gfc.state.ga.us

Bee Hunt! Doing Real Science with K-12 Students
John Pickering and Nancy Lowe,
Polistes Foundation/Discover Life
http://www.discoverlife.org/bee/bee_hunt_flier.html

Putting it All Together: Integrated Learning in Outdoor Classrooms
Steve Rich, GA Department of Education

Spiders, Snakes, & Ticks ~ Oh My!
Linda May, GA Department of Natural Resources
Contact: linda.may@dnr.state.ga.us

Finding the Funds to Help your Gardens Grow
Stacy Smith, EeinGeorgia.org
Contact: stacy@eeingeorgia.org
www.eeingeorgia.org

Junk Music
Amber Fetner, Unitarian Universalist Fellowship of Athens

Anyone Can Make a Rain Barrel!
Natalie White, Athens-Clarke County
Contact: nataliewhite@co.clarke.ga.us

Wingin' It! A Butterfly Medley Kit
Monarchs Across Georgia
www.monarchsacrossga.org

Garbage in the Garden?
Suki Jannssen, Athens-Clarke County Recycling Division
Contact: suki@acc-recycle.org

Must-Have Outdoor Teaching Kits
Kim Bailey, EeinGeorgia.org
Contact: kim@eeingeorgia.org
www.eeingeorgia.org

Environmentally Inspired Hands-on Art Project
Krista Dean, Chase Street Elementary
Contact: dean@clarke.k12.ga.us

Discover Life (www.discoverlife.org) presents ...

Bee Hunt!

Imagine ... a safari in your own neighborhood! Stalk wildlife, witness predators as they attack and eat their prey, peer in on courtship and mating displays, learn about mysterious complex and ancient associations between species.

Cost of safari: **FREE!**

Some of the most fascinating phenomena of nature are not to be found on the Discovery Channel - there is a much better channel for discovery in your own back yard... if you only know where to look. Join us!

To monitor pollinators on Earth Day, 2010,
Discover Life seeks partners at schools
and other sites across the country.

Kids love electronic gadgets. Let's use their electronic gadgets to get them out in the back yard, the schoolyard, the local park, learning about nature.

All you need to participate is a **digital camera** with good macro function: if you can take a macro image of the back of a dime, and read "E Pluribus Unum," your camera is ready!

Dare to join us on safari... contact: nancy@discoverlife.org

Finding the Funds to Help your Garden Grow

Hard work and dedicated volunteers will get you far, but a garden needs some money along with the mulch to make it grow.

How to Target a Grant:

Recommend EEinGeorgia. Portal site, offers information on a wide range of grants listed because of their Environmental Education focus, sorted by date, with quick and dirty details to help you determine if it is right for your project.

Also, Grants.gov and www.schoolgrants.gov

Getting ready to apply:

1. Do your research. READ EVERYTHING you can on the grant. Look at previous grantees. You need to determine if their program matches their interests.
2. Gather your materials early. Do you need letters of recommendation, a special project, tax returns, 501 c(3) letter. Some of these things may take time to procure.
3. Create your budget. You need to know exactly what you need before you go out looking for someone to provide it. In this step you can figure out what you can get donated, what you might already have that you can use, knowing what you need will help you target partners, and knowing the exact amount of funds and materials that you need will help you target specific grants.

The grant Application (Thank you to Sarah Visser)
Use grants own language, restate question.

1. Summary: How much money you need and what you will do with it. Get right to the point. This may be the only part of the grant that gets read—this has to be good to get you through the initial screening.
2. Needs assessment: describes the problem that needs action. Remember that this is going to someone outside your community (and sometimes outside your interest group), don't assume that they understand the problem or need – spell everything out.
3. Organization Background: Grantors want to know that their money is going to someone that can effectively get the job done. Keep in mind that you are competing against other worthy organizations with goals similar to yours. Use this section to show why YOU are the group to do this project. Make this your group "resume" and show your skills, resources, and expertise. Provide past experiences successfully implementing projects.
4. Program Description: This is your Objectives and Methods section. Make your objectives or goals concrete and measurable. Show that your methods will effectively achieve your objectives. For example, the goal of a vegetable garden could be: Teach required Georgia Standards for Kindergarten nutrition

and plant life cycles. This may be where you provide a specific timeline for the project.

5. Evaluation Measures: Explains how you will know when your objectives are met. Have a method to evaluate each objective. For example, passing a test about nutrition or number of participants reached by the project.
6. Budget: Ideally, this was done before you even started writing a grant. The budget should be clear, reasonable, and supported. Have actual price quotes for all materials. Even if they don't ask for a match include community investment. Even if you can't contribute money, include estimates for donated materials (mulch, labor, food provided for volunteers, office supplies, administrative support)
7. Future Funding: Chances are the grant you get will be the one time that this project is funded. Have a plan as to how this program will continue when the money has been spent. If it is a one time project, make a mention of how this project will be of lasting benefit to the community. If the grant funds an ongoing program or a permanent installation, explain how the program will be supported in the future or how the program will be maintained.

When submitting a grant FOLLOW ALL DIRECTIONS TO THE LETTER. If they say submit ten copies on plain white paper, double spaced, with no binders or alligator clips. Do exactly that. Those giving away money get a lot of requests and deviation from deadlines and submission formatting guidelines can get you thrown out.

Follow Up

1. Keep a copy of your grant.
    a. This grant can serve as the basis of your next grant.
    b. It can be the beginning of the follow-up report that is often required.
    c. Can be the basis of publicity and awards applications. (looks good for next grant!)

When your grant "falls through"

One of the great things about the grant process is that even if you do not receive the grant, the process of preparing a budget, a timeline, and evaluating your needs launches your project. If you don't get the grant, don't let the momentum die.

FUNDRAISING (Thank you to Ann K. Buchholtz of UGA)
Besides grants, there are two fundraising categories- projects and grants.

-Projects (bake sale, selling hot dogs or chicken dinners)

*Look for a project that fits in with your mission

*Projects can also serve the purpose of raising program awareness

*Try for a project that FUN. A fundraising project often becomes a community institution that people look forward to that can fund a project for many years to come. Yard sales, consignment sales, "Tastes of…", Festivals, 5 ks, Cook-offs,

evenings in the garden (look at what others have done, but don't compete with other locals)

*Make sure people know it is for a cause (willing to pay a little more if it goes to a worthy project)

-Fund Drives (sounds unpleasant out and out asking for money without providing a product in return, but people can often appreciate the time saved and have money to give, but would prefer not to buy anything or have another event to attend)

*Be specific. You will be most successful if you have a tangible goal, for example, we need $600 to purchase lumber to build a raised bed for kindergarteners to meet state nutrition standards vs. we are trying to raise money for our garden program.

*Be visible. People, just like granting foundations want to know where their money is going and what it will accomplish. Show that you can get results.

NO FUNDING SOLUTIONS. Now is the time to get creative. Go ahead and start the project anyways, even if it is on a smaller scale, this will give your organization something to show in future applications.

- Can you get the materials you were hoping to buy with your grant donated? Even if you can't find money you can often find materials and labor. (donated leaves or free compost, repurposed containers, local gardening organizations to donate plants from their yards, gardeners are often eager to share.

-Check FREE resources

*one source is the EEinGeorgia Database

examples (free curriculum, seeds, materials)

*check out local organizations that often have resources (tools, lessons, materials, etc) that they can donate (ACC recycling, KACCB). reach out for a partnership (exp trees for tomorrow)

*look at the school profile database. Many schools have been in your situation and have come up with creative ways to garden with "nothing"

*check out smaller grants and awards that can begin your project (outdoor classroom award has a small prize)

THANK YOU's!

Cultivate your donors and volunteers. 80% of the funds and the work come from 20% of the people.

-Send thank yous. Let everyone know they were appreciated. Make the project a good experience.

-Complete your REPORT. Not completing reporting requirements can disqualify you for future funding.

-Do the publicity. Take pictures, publish the story. This provides publicity for those that need it, thanks to those that earned it, and visibility for the future success of your own project. Everyone likes to be (and wants to continue to be) a part of a SUCCESSFUL project!

Make your own *Rain Barrel*

Supplies

45-55 gallon drum or trash can, rinsed and fully sealed

spray adhesive, plumbing sealant, and Teflon tape

Tools

drill

4" circular drill bit

9/16" and 13/16" spade bits

Hardware

spigot

rubber washer

1/2" metal nut

1/2" PVC elbow

6" section PVC pipe

2 X 4" circular drains

2 X 4" circle insect screens

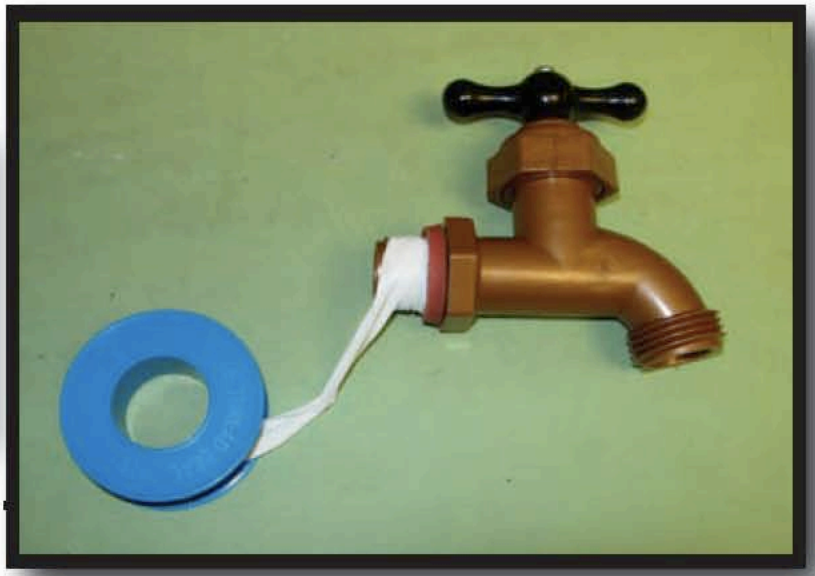
rubber stopper

Please be careful when using power tools! Large plastic drums can be thick and difficult to drill. You may need a Helper to steady the barrel during drilling.

Instructions

***Step 1*:** Drill two 4" holes in the top of the container, on opposite edges as shown.

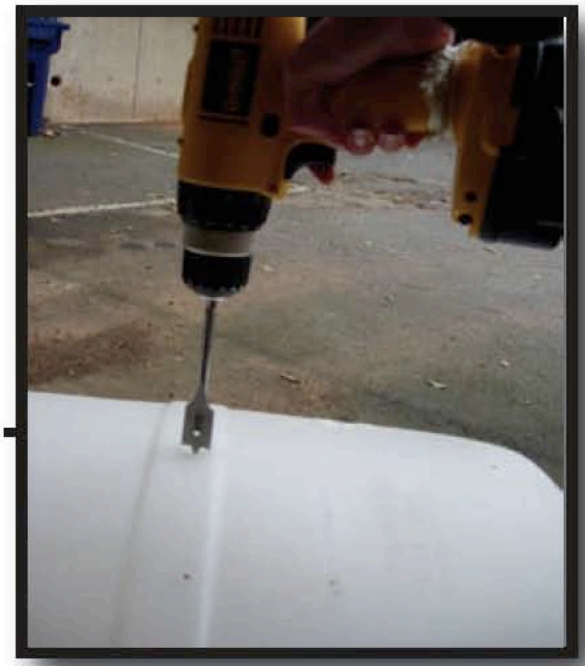
Step 5: Wrap a few turns of Teflon tape around the threads of the spigot and slide on the washer. Twist the spigot into the front opening and secure with the metal nut. Screw on the PVC elbow so that it is pointing downward.



Step 6: Trim the PVC pipe so that it reaches from the spigot to the bottom of the barrel. Insert the pipe into the elbow. Caulk heavily around the elbow and the spigot on the inside and outside of the barrel.

Step 7: Place the drains into the openings in the top. Put the stopper in the hole at the bottom of the barrel. Let the sealant dry overnight, and you are ready to install.

Step 2: Using the 13/16" spade drill bit, drill an opening for the spigot about two thirds of the way down the barrel.



Step 3: Using the 9/16" drill bit, drill an opening for the stopper at the very bottom edge of the barrel.

Step 4: Using the spray adhesive, line the drains with the circles of mosquito netting.

Installation

Any configuration that gets water from your gutter system into the barrel will do. Some people direct water coming from the gutter through a flex pipe into the opening on top of the rain barrel. Others cut off the downspout at rain barrel height and let the water flow directly into one of the drains. To catch every drop of water in this setup, drill another 4" circular hole into a plastic bowl and put it between the drain and the barrel.

Maintenance

Little maintenance is required. If your rain barrel is transparent, you may need to periodically clean away algae buildups. Be sure to keep mosquitoes from breeding in the water by monitoring the insect screening for gaps or tears. You can also put a larvicide briquette in the barrel every month. These are available at all Athens-Clarke County fire stations, and they will not harm your plants.

Safety

Never drink water from a rain barrel or use rain barrel water on plants that you plan to consume. This water may contain hazardous chemicals from your roof.

There is a risk of drowning if your rain barrel has a removable lid. Keep the lid securely fastened at all times, and keep children and animals away from the rain barrel.

Must-Have Outdoor Teaching Kits

Presented by
Kim Bailey, EEinGeoriga.org
2009 Outdoor Classroom Symposium

Make your own kit including these essential teaching tools and be ready to start teaching outdoors on Monday morning!

- **Journal**

Materials: blank paper, preprinted journal pages, or paper lunch bags; hole punch; cover such as cardboard, cardstock, etc.; fasteners such as twig and rubber band, string, ribbon, raffia, etc.
Directions: See http://handbookofnaturestudy.blogspot.com/2008/05/how-to-make-nature-journal.html for how to make a journal bound together with a twig and rubber band plus over 50 "outdoor hour" activities to use with the journal, AND downloadable pre-printed journal pages!
See http://scrapbooking.about.com/library/weekly/blpaperbagscrapbooks.htm for directions on how to make a journal from paper lunch bags – hidden flaps and pockets for your treasures!

- **First-aid Essentials**

Materials: Latex, or other sterile gloves; cleansing towelettes to disinfect; antibiotic ointment to prevent infection; adhesive bandages in a variety of sizes; insect sting stick or wipes.

- **Bug Box**

Materials: clear plastic container with clear lid; string; permanent markers to decorate.
Directions: Poke holes in sides on container, attach string for handle and decorate as desired. Poke holes in container lid. Use to observe bugs and other critters in the outdoor classroom.

- **Noise-maker**

Materials: plastic cup, paper clip, string, wet paper towel
Directions: See www.eurekalert.org/kids/aaas/Megacone_final.pdf
Use the noise-maker to call students back together when outdoors.

- **Sit-upon**

Materials: stack of newspapers; duct tape; permanent markers or paint pens; plastic bags, vinyl table cloth, tarp, etc. to make cover.
Directions: See http://basketmakers.org/topics/beginners/situpon2.htm and www.parisgirlscouts.org/index.php?option=com_docman&task=doc_download&gid=124&Itemid for many different ideas and ways to make sit-upons.

- **Nature Bandanna**

Materials: Plain bandana (available from a craft store) or make our own by tearing or cutting sheets or fabric into squares. Supplies for decorating – see ideas below.
Directions: Place flowers on bandana, cover with plastic wrap and use a hammer to pound "dye" out of the flower onto the bandana. Tye dye! Use acrylic or fabric paint to make leaf prints. Place leaves on a dark colored bandana and spray with bleach to make patterns (see directions at www.brightermindsmedia.com/parents/crafts/celebrate-fall-with-a-leaf-t-shirt.php)
Use as a blindfold. Cover items collected from the outdoor classroom, uncover for 1 minute, cover again and see how many students can remember.

- **Plaster Track Casting Mini-Kit**

Materials: Plaster of Paris, small cup for water, paper clip, cardboard strip, plastic baggie
Directions: Using the small cup, place two cupfuls of Plaster of Paris in the baggie with the other materials, including the cup. Find a track (search near water sources.) Use the cardboard strip to build a wall around the track. Hold it in place with the paper clip. Be careful not to damage the track when you place this around it. Gently press the strip into the surrounding soil so the plaster will not run out from under it when poured. Measure a cupful of water (from stream or your water bottle), pour into the baggie of plaster, and mix well. Carefully pour the plaster in the mold letting it run into the track. After the plaster sets (about 30 minutes), pick it up by reaching underneath and lifting it. You may need to carefully dig out some of the mud or soil from beneath the cast before lifting. Allow it to dry for several days then hold it under running water to gently rub away any excess dirt.

- **Clip-board**

Materials: stiff cardboard, scrap wood, or foam core; rubber band or large binder clip
Directions: Cut cardboard or other material into a rectangle slightly larger than an 8.5 X 11" sheet of paper. Decorate if desired. Add a rubber band around the top or attach a larger binder clip to hold paper in place.
Also see these directions for making a field desk -
http://files.dnr.state.mn.us/education_safety/education/schoolforests/fieldDesk.pdf

- **Supplies for Outdoor Learning Games**

Materials: pipe cleaners (3 of each color and at least 6 different colors); craft foam (one of each color and at least 6 different colors); nature magazines; construction paper or cardstock; 30 – 36' length of rope; ball of string; glue stick; scissors.
Directions: Cut each pipe cleaner into four equal sections. Bend each section into a worm shape. Use pipe cleaner worms for the "*Birds and Worms*" learning activity (#25) available from the Project Learning Tree curriculum.

Cut the craft foam into about 1" squares. (A paper slicer works well for this too!) Cut rope into three 10' or 12' sections. Use the squares as food tokens for a number of activities found in the Project WILD curriculum guides and many other EE curricula. The ropes make good boundary markers.

Cut out photos of plants, animals, and fungi (don't forget the fungi!) as well as nonliving parts of the environment – sun, soil, water, air, etc. Glue pictures on to squares of construction paper or cardstock. Laminate if at all possible! Use the cards to teach a variety of ecosystem activities such as "*Web of Life*" (#45) available from the Project Learning Tree curriculum (just add a ball of string). Here's another activity that can be used to teach classification, questioning skills, etc: Who Am I? - Use masking tape or a clothes pin to attach a picture card to the back of each student. Students then ask each other questions to try figure out what is on their picture. The questions must be answered with a yes or a no. (Examples: Am I alive? Do I have a backbone? Do I fly?) Two students can take turns asking their own questions, or move on and ask questions of another student. Students will need to turn their backs to show the picture before asking a question. When a student figures out the picture, affix another picture on his/her back or allow him/her to assist others by answering questions.

OK, you're set! Now all you need is an outdoor space and students (oh, and toss in some magnifying glasses too).

Go on, get out there! **There's a reason it's called the GREAT outdoors!**

Nature Journals

By Krista Dean
deank@clarke.k12.ga.us

All young naturalists need a field notebook for sketches and taking notes. I love teaching the students to make these beautiful hand-made journals with hand-made paper. It may be a bit time consuming, but there are many skills and lessons taught during the process and the students end up with a product that they are really proud of and think is special.

Making the Paper

This is a very visual, hands-on illustration of the recycling process. Students are turning something old into something new before their very eyes. Plus, the paper can be quiet beautiful and used for a variety of different things. We use it for the covers of our nature journals.

Materials needed:

Old blender
Large tub or flat container
Screen stretched over a frame – called the **deckle**
Old paper scraps
Liquid starch
Pieces of felt larger than the screen for drying the paper
Water

Instructions:

1. Tear up small pieces of scrap paper approximately 1 x 1”. We sort through the recycling bin to find interesting or colorful papers.
2. Fill the tub half way full with water. This will be the **bath**.
3. Fill the blender half way full of torn paper pieces. Fill to the top with water. Blend together. Add at least 3 blenders full of **pulp** to the **bath**.
4. Add about ¼ cup of starch. (optional)
5. Put the screen in the water. Slowly bring it up out of the water. If the “paper” has holes, dunk it back in and bring it up again. This is called **kissing the bath**.
6. Place the felt on the paper and press out excess water.
7. Flip the screen onto a flat surface. This is called **couching**.
8. I like to put them in the sun at this point to dry.

Making the Journals/Japanese Stab Binding

Materials needed:

Hand-made paper for the front cover (or cardstock)

Paper for the pages
Binder clips
A tool for punching holes
Rulers
Pencils
Twine or waxed lined (something that doesn't unravel easily)
Needles (with eye large enough for your binding)

Instructions:

Please look up www.scrapjazz.com/topics/Techniques/Binding/948 for thorough instructions.

For our nature journals, I use 4 ¼ x 5 ½ paper. The holes are ½" from the spine and the holes are at ½", 2", 3 ½", and 5".