

Rain Barrel Use In Outdoor Classrooms

A rain barrel allows you to take advantage of free water. You can have water where you need it. It can be placed under a roof or freestanding. Use it to supply fresh water for maintenance of your outdoor classroom. The screen prevents unwanted debris and mosquitoes. Holds 55 gal.



Wide mouth openings allow you to capture rainwater without a roof or downspout.



Installed spigots allow you to attach a soaker hose.



Many science lessons are learned using rain barrels.



Students enjoy “decorating” their rain barrels.

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WHY A RAIN BARREL?

Why not? Since creation, man has been saving water for his needs when rainfall ran short. As water becomes scarce (and more expensive), it would be wise to reexamine the methods our forefathers used to conserve water. They used innovative ways for water collection and reuse techniques. We will look at some ideas and facts that other people are still using around the country.

Have you ever wondered how much water runs off your roof? During a typical rain storm producing 1" of rain in a 24-hour period, over 700 gallons of water will run off the average roof, an impervious area of 1200 square feet. Consider the cumulative impacts of storm water runoff.

The rain barrel system can be very inexpensive and will pay for itself in water savings in a short time. You can even link barrels together to increase your water and dollar savings.

One downspout on a roof collects about 25% of the runoff. The volume of water depends on how much it rains and the roof size. The rain barrel replenishes its water supply every time it rains. You'll capture the fresh water otherwise lost to runoff, and it only takes a ½" rainfall event to fill a 55-gallon barrel.

There are no health department regulations for rain barrels, and they are perfectly legal. They need to be covered with screen mesh or tight fitting lid to thwart mosquitoes and other insects from breeding. Be sure that the rain barrel doesn't become a hazard to small children and animals. Secure barrels properly, and keep away from stairs where young children could climb up on the barrel. Elevate your barrel slightly to make it easier to attach a hose or place a watering can under the spigot. This will also increase your water pressure.

ADVANTAGES OF A RAIN BARREL

- ◆ Lawn and garden irrigation make up nearly 40% of total household water use in the summer. A rain Barrel collects water and stores it for when you need it most - during periods of drought - to water plants, wash your car, etc. It provides an ample supply of free “soft water” that contains no chlorine, lime or calcium.
- ◆ A rain barrel will save most homeowners about 1300 gallons of water during the peak summer months. Saving water not only helps the environment, but also money and energy. Diverting water from storm drains also decreases the impact of runoff to streams and other water bodies in the Atlanta area.
- ◆ Use you rain barrel in areas where you might not have access to a spigot. Keep your compost pile moist to promote the decomposition process throughout the year. Make a “compost tea” by putting some compost in an old pillowcase or pantyhose and put it in the barrel. Add some water-soluble fertilizer in the barrel and you have 55 gallons of fertilizer at a time rather than mixing a gallon at a time.
- ◆ Connecting a soaker hose to your barrel is a great way to water shallow-rooted plants. It takes about 8-10 hours to empty a full rain barrel this way.
- ◆ Link two to three rain barrels together to increase your water supply.

Cobb County Water System: Rain Barrel Fact Sheet

A rain barrel is a rainwater harvesting system that is connected to a downspout from a house or building. By collecting rainwater, one can save energy, water, and money. Rain barrels also help reduce erosion and storm water runoff and increase water quality.

How do I set up a Rain Barrel system at my house, school or office? There are two options: purchase pre-made rain barrels or create your own.

The following instructions are for creating your own barrel.

Obtain the following materials:

- ◆ a sturdy barrel
- ◆ mesh screen
- ◆ plastic faucet
- ◆ Teflon tape
- ◆ steel washer
- ◆ o-ring
- ◆ long zip tie
- ◆ plastic elbow
- ◆ plastic drain cover
- ◆ down spout flex elbow
- ◆ #1 or #2 plug

Tools/Equipment needed:

- ◆ drill
- ◆ 7/8" paddle bit
- ◆ 5/8" paddle bit
- ◆ jig saw
- ◆ scissors



Athens-Clark County Rain Barrel, 2006

- Step 1.** Cut an opening in the top of the barrel the size of the drain cover.
- Step 2.** Cut a piece of mesh screen slightly larger than the drain cover. Secure the mesh screen to the drain cover with the zip tie. Insert the drain cover into the opening on top of the barrel.
- Step 3.** Drill one hole at the bottom to drain the barrel. Put the plug in the bottom hole.
- Step 4.** Drill a hole for the faucet, approximately 6 inches from the bottom.
- Step 5.** Attach faucet* (see faucet assembly detail).
- Step 6.** Cut the downspout to just above the rain barrel. Attach the downspout flex elbow to the downspout.
- Step 7.** Slide the rain barrel under the spout lining up the mesh screen opening with the spout. Spray water on the roof and check to make sure the rain barrel and mesh opening are in the right location.
- Step 8.** Use water collected with rain barrel for gardening purposes.





Cobb County Water System Rain Barrel Project Materials, Costs & Sources

Cobb County...Expect the Best!

Item	Item Description	Supplier	Total Cost	Cost/barrel
Barrel	55 gallon food grade drum	Advance Drum	15.00	\$15.00
Mesh Screen*	Insect screening (roll)	Ace Hardware	10.00*	.25
½” Plastic Faucet	Acetal sink faucet (PVC)	Ace Hardware	2.99	2.99
Teflon tape*	PTFE thread seal tape w/ Teflon	Ace Hardware	1.79*	.01
Steel Washer	¾” Flat Steel Washer	Ace Hardware	.43	.43
O-Ring*	#12 O-rings 10/bag	Ace Hardware	1.27*	.13
Plastic Elbow	PVC schedule 40-90° elbow	Ace Hardware	.49	.49
Cable Tie*	24” Zip Tie 10/bag (HVAC)	Lowe’s	4.67*	.47
Plastic Drain Cover	6” round grate	Ace Hardware	2.99	2.99
Downspout Flex Elbow	Plastic extension for downspout	Ace Hardware	\$2.00 – 8.00	n/a
Plug	#1 or #2 rubber stopper	Ace hardware	.30	.30
Total	*Supplies multiple barrels		Approx \$25.00/barrel	\$23.06

Suppliers:

Advance Drum Service, Inc.
1835 Dickerson Drive
Mableton, GA 30126
404 699-7048

Vickery Ace Hardware
881 Concord Rd.
Smyrna, GA 30080
770 435-4567

*Faucet assembly detail:

Place a large steel washer over the faucet threads. Slide an o-ring over the faucet threads. Wrap the faucet threads with Teflon tape. Place the faucet into the hole in the barrel and screw a plastic elbow onto the assembly from the inside of the barrel.

The Water Wise Guy Game

An Interactive PowerPoint Game on Outdoor Water Conservation and Xeriscape

By Gary L. Wade and Elizabeth Winans, Department of Horticulture,
The University of Georgia

The Water Wise Guy Game is an interactive PowerPoint Game intended for use with audiences who have received subject matter training on Xeriscape, Landscape Water Conservation. Participants need a general understanding of the seven steps of Xeriscape in order to answer many of the questions and remain in the game. A PowerPoint lecture on Xeriscape which can be used as a pre-requisite for the game is included on the CD.

The game is based on a popular TV game show where contestants must answer a set of questions with occasional help from the audience or a friend in order to win. However, unlike the TV game show, contestants do not earn money for answering questions correctly, they earn water droplets. Instead of cash prizes, the prizes are water conservation kits and water-saving devices (available from many utilities in Georgia). A contestant who collects 10 “droplets” is designated a “Water Wise Guy” and is given a computer ovation along with a nice prize. Like the TV game show, the contestant has three *Life Lines* – **50:50**, where two of the four answers are removed by the computer; **Ask a Friend** in the audience; or **Poll the Audience**. The contestant can use each *Life Line* only once.

For audiences who are unfamiliar with Xeriscape, it is suggested that the presenter take 45 minutes to an hour at the beginning of the program to review the seven steps of Xeriscape. Then, take a short break to set up the game with speakers for the full acoustical effect. The game itself will take about an hour to play, so the entire program can be done in a 2 hour session. A laptop computer, LCD projector, and auxiliary speakers are needed to run the game.

The Water Wise Guy Game operates on Microsoft PowerPoint 2002 for PC or higher. The animation and sound files may be choppy and sluggish if you try to run it on PowerPoint 2000 or earlier versions, so they are not recommended for this program. The program includes extensive documentation and instructions for playing the game.

The Water Wise Guy Game is a fun review of outdoor water conservation principles and practices and provides an entertaining atmosphere of learning and competition. It can be used for presentations to civic groups, garden clubs, youth groups and others interested in water conservation.

. The program can be obtained for \$20 (for CD duplication, packaging and shipping) from Dr. Gary L. Wade, Department of Horticulture, The University of Georgia, 221 Hoke Smith Building, Athens, GA 30602. Email: gwade@uga.edu Make your check payable to the **Georgia 4-H Foundation**.



EVERY DROP COUNTS!

Watching Water Wasters in the Kitchen and Bathroom



THE TOILET

Check for toilet leaks by adding food coloring to the tank. If the toilet is leaking, color will appear in the bowl within 30 minutes. Check the toilet for worn out, corroded, or bent parts.

Avoid flushing the toilet unnecessarily. Dispose of tissues, insects and other similar waste in the trash rather than the toilet.



THE SHOWER/BATH

Replace your showerhead with an ultra low-flow version, saving up to 2.5 gallons per minute.

In the shower, instead of increasing the hot or cold water flow to adjust the water temperature, try decreasing the flow to achieve a comfortable water temperature.

Don't let the water run while shaving, washing your face, or brushing your teeth.



THE KITCHEN

Minimize the use of kitchen sink disposals; they require a lot of water to operate properly. Start a compost pile as an alternate method of disposing of food waste.

Store drinking water in the refrigerator rather than letting the tap run to get a cool glass of water.

Do not use running water to thaw meat or other frozen foods. Defrost them overnight in the refrigerator.

When washing dishes by hand, fill one sink or basin with soapy water. Quickly rinse under a slow stream of water from the faucet. Use the dirty water to run your sink disposal if necessary.

Fully load automatic dishwashers; they use the same amount of water no matter how much is in them.

Other Water Wasters in Your Home

APPLIANCES



Unlike your dishwasher, the amount of water your washing machine uses is adjustable; adjust according to the load size.

Look for water saving washing machines and buy them. Horizontal loading machines use less water than top-loading machines.

Install a hot water recirculation device. By recirculating water that would otherwise go down the drain, you can save 2-3 gallons of water for each shower taken or 16,500 gallons a year per household.

Never install a water-to-air heat pump or air-conditioning system. Air-to-air models are just as efficient and do not waste water.

Install water-softening systems only when necessary. Save water and salt by running the minimum amount of regenerations necessary to maintain water softness. Turn softeners off while on vacation.

MAINTENANCE

Verify that your home is leak free, because many homes have hidden water leaks. Read your water meter before and after a two-hour period when no water is being used. If the meter does not read exactly the same, there is a leak.

Repair dripping faucets by replacing washers. If your faucet is dripping at the rate of one drop per second, you can expect to waste 2,700 gallons per year.

Retrofit all wasteful household faucets by installing aerators with flow restrictors.



Insulate your water pipes. You'll get hot water faster and avoid wasting water.

Outdoor Water Wasters to Watch

WATERING THE LAWN

Don't over-water your lawn. Generally, lawns only need watering every 5 to 7 days in the summer. Buy a rain gauge to see how much water your yard gets.

Water lawns during early morning hours to reduce losses from evaporation.

Position your sprinklers so that your water lands on the lawn and shrubs and not the paved areas.

Install sprinklers that are the most water-efficient for each use such as micro and drip irrigation and soaker hoses.

Teach your family how to shut off automatic systems so they can turn them off when storms are coming.

LAWN CARE

Raise your lawn mower blade to at least 3 inches. A lawn cut higher encourages grass roots to grow deeper, shades the root system and holds soil moisture better than closely-clipped lawns.

Avoid overfertilizing your lawn. The application of fertilizers increases the need for water and is a source of water pollution.



LANDSCAPING

Mulch to retain soil moisture and control weeds.

Plant native and/or drought-tolerant plants. Group plants together based on similar water needs.

Minimize the grass areas in your yard because less grass means less water.



OTHER OUTDOOR WATER WASTERS TO WATCH

Do not hose down your driveway or sidewalk; use a broom instead saving hundreds of gallons of water.

Check all hoses, connectors and spigots regularly. Replace or add washers if you find leaks.

If you have a pool, consider a new water-saving pool filter. A single backflushing with a traditional filter uses from 180 to 250 gallons of water.

Consider using a commercial car wash that recycles water. If you wash your own car, park it on the grass, use a bucket with soapy water, turn off the water while soaping, and use a hose with a pressure nozzle to decrease rinsing time.

www.dca.state.ga.us/water_conservation



MULTIPLE TOPIC SESSIONS

Materials provided by speakers from the following sessions:

- **Georgia Green and Healthy Schools**
 - Who, What, When, How
 - Benefits of Participating in the GG&HS Program
- **Leaping in Green: Finding Funds for Green & Healthy Learning**
 - Grant Writing
- **Sun Wise-School Program that Radiates Good Ideas**
 - Sun Wise Action Steps



A new collaborative initiative to assist and support schools in understanding and practicing environmentally sound principles.

Who?

All Georgia public and private/independent schools (grades K-12) are invited to participate.

What?

Students and teachers use environmental assessment tools to conduct ***school-based investigations***.

Students learn real life ***problem solving skills*** by collecting data, identifying areas for improvement, implementing changes, and tracking progress.

Schools earn ***recognition and awards*** for their actions to reduce waste, protect and conserve water, improve air quality, conserve energy, enhance wildlife habitat, and integrate environmental education in the curricula.

When?

Award application deadlines are January 31 and June 30.

How?

Please visit www.EEinGeorgia.org/gghs to get started!

Benefits of Participating in the Georgia Green & Healthy Schools Program

Academic Achievement

Provide a meaningful real world context for engaging students in mastering state curriculum standards and improving academic achievement.

Healthy School Environments

Create and maintain healthy school environments for successful teaching and learning.

Environmental Protection

Conserve valuable natural resources by implementing environmentally sound practices.

Financial Savings

Save funds by improving school resource efficiency and recognizing opportunities for cost avoidances.

Community Involvement

Increase community involvement and opportunities for academic service learning.

Recognition & Awards

Earn recognition for current accomplishments and improvements made at each level of the program. Awards include a certificate, banner, patches, statewide awards ceremony, and grant eligibility.





Leaping into Green: Finding the funds for green and healthy learning
Sarah Visser
Keep Georgia Beautiful

Finding a Grant Program

- Types of Grants: Government, Foundation, Corporate
 - Government Grants - Catalog of Federal Domestic Assistance, Catalog of State Financial Assistance Programs
 - Foundations - The Foundation Directory
 - Corporate - Websites, Annual Reports
- www.schoolgrants.org
- Business and Personal Contacts

Researching the Grant Maker

- The more you know the better
- Visit websites or call for printed materials and request a list of previous grants if available
- Resources to help: Foundation Directory, Annual Reports, www.Guidestar.org
- Don't try to force a match

Before You Start – Read the Directions!

- Have a copy of the grant application/ Request For Proposals on hand
- Make sure you are aware of any special requirements
- Ready any necessary documentation such as tax returns, 501 c(3) letter etc.
- If appropriate, contact the grant maker to discuss your project

Seven Parts of a Proposal

- Summary Statement
- Needs Assessment
- Background of Organization
- Program Description
- Evaluation Measures
- Budget
- Future Funding Statement

Summary Statement

- Summarizes the project: should state who you are, how much money you are requesting and what you will do with it.
- Keep it short: a paragraph to a page
- Keep In Mind: The summary is the first and often the **only** part of a proposal that is read

Needs Assessment

- Perhaps the most important part of the proposal, describes the problem that requires action
- Provide supporting numbers/documentation
- Portray the need clearly, don't assume that the need is "obvious"

Background of Organization

- Who are you?
- Why are you the group to do this project?
- Prove you have the skills, expertise, and resources to implement the program successfully
- Mention any similar projects that you have implemented

Program Description

- 2 Parts - Objectives and Methods
 - Objectives - Be specific, what are your goals for the program? These must be concrete and measurable.
 - Methods - Description of your program. How will you achieve your objectives? Are these methods proven?
- Can include an implementation timeline

Evaluation Measures

- How will you know when you have met your objectives?
- Ideally, you should have an evaluation measure for each of your objectives
- Process evaluation versus outcome evaluation

Budget

- Detailed listing of all of the expenses and any revenue
- Funders will look for in-kind contributions on your part - can be money, office space, administrative support, supplies etc.
- The budget should be clear, reasonable, and supported

Future Funding

- One time projects
- Have a plan (this is the hardest part)
- Reassure the Grant Maker: They want to know that good programs will continue on their own without additional expense to them

Additional Resources

- Grant Writers - Amateur and Professional
- DCA Grant Writing Seminar
- Packet
- Call Me - (404) 679-4853, svisser@dca.state.ga.us



SunWise Kids

SunWise Home > Kids Home > SunWise Action Steps

SunWise Action Steps



Limit Time in the Midday Sun

The sun's rays are strongest between 10 a.m. and 4 p.m. Whenever possible, limit exposure to the sun during these hours.



Seek Shade

Staying under cover is a good way to protect yourself from the sun. Remember the shadow rule: Watch Your Shadow. No Shadow, Seek Shade!



Always Use Sunscreen

Apply a broad spectrum sunscreen with a Sun Protection Factor (SPF) of at least 15 or higher and use a lot wherever your skin is showing. Reapply every 2 hours when working or playing outdoors. Even waterproof sunscreen can come off when you towel off, sweat, or spend extended periods of time in the water.



Wear a Hat

A hat with a wide brim offers good sun protection to your eyes, ears, face, and the back of your neck - areas particularly prone to overexposure to the sun.



Cover Up

Wearing tightly woven, loose-fitting, and full-length clothing is a good way to protect your skin from the sun's UV rays.



Wear Sunglasses that Block 99-100% of UV Radiation

Sunglasses that provide 99-100% UVA and UVB protection will greatly reduce sun exposure that can lead to cataracts and other eye damage. Check the label when buying sunglasses.



Avoid Sunlamps and Tanning Parlors

The light source from sunbeds and sunlamps damages the skin and unprotected eyes. It's a good idea to avoid artificial sources of UV light.



Watch for the UV Index

The UV Index provides important information to help you plan your outdoor activities in ways that prevent overexposure to the sun. Developed by the National Weather Service (NWS) and EPA, the UV Index is issued daily in selected cities across the United States.