

How to Build and Install a Rain Barrel



What Is a Rain Barrel?

A rain barrel collects and stores rainwater from your rooftop to use later for things like lawn and garden watering. Water collected in a rain barrel would normally flow through your downspout, onto a paved surface, and eventually into a storm drain.

Why Use Rain Barrels?

◆ Rain barrels help **lower water costs** (a rain barrel can save approximately 1,300 gallons of water during peak summer months).

Storing rainwater for garden and lawn use helps **recharge groundwater** naturally.

- ◆ Rain barrels **reduce water pollution** by reducing stormwater runoff, which can contain pollutants like sediment, oil, grease, bacteria, and nutrients.
- ◆ Rain barrels are **inexpensive and easy** to build and install.

Instructions

Steps 1-3 below explain how to build and install your rain barrel. The supplies listed above can all be found at most home improvement and hardware stores. The 55-gallon drums are available for \$5 from the Pepsi Bottling Company in Baltimore, or you can purchase a ready-to-install barrel from the South River Federation. For more information contact the Rain Barrel Community Action Team at #410-721-0661 or actionteams@southriverfederation.org.

STEP 1. Cut Holes in Barrel

◆ Cut lower drain hole

Measure about 1 inch above the bottom of the barrel where the barrel side begins to rise toward the top. Using a $\frac{3}{4}$ " bit (or hole saw), drill a hole through the barrel.

◆ Cut upper drain hole

Mark the upper drain hole according to where you want the overflow to be located in relationship to the lower drain. Use a 1- $\frac{5}{8}$ " hole saw to cut out the overflow hole.

◆ Cut top hole for atrium grate (filter)

Using the atrium grate as a template for size, mark a circle at the center of the top of the drum (locating the rainwater inlet in the center of the barrel lets you pivot the barrel without moving the downspout). Drill a $\frac{1}{2}$ " hole inside of the marked circle. Use a router, jigsaw or coping saw to cut until the hole is large enough to accommodate the atrium grate, which filters out large debris. Don't make the hole too big – you want the flange of the atrium grate to fit securely on the top of the barrel without falling in.

◆ Cut notch to hold hose

Using a $\frac{1}{2}$ " bit or hole saw, cut out a notch at the top of the barrel rim (aligned so that it is above the lower drain hole). The notch should be large enough so that the end of the hose with the adapter will firmly snap into place.

STEP 2. Set Up Barrel and Modify Downspout

◆ Set up barrel

Since water will only flow from the garden hose when the hose is below the barrel, place the barrel on high ground or up on cinder blocks or a sturdy wooden crate underneath your downspout.

◆ Modify your downspout

Cut your existing downspout using a saw so that the end can be placed over the top of your rain barrel. Use a 3" vinyl downspout elbow to connect the two downspout pieces (or use a downspout adapter and a piece of corrugated plastic pipe). Trim the end of the downspout if necessary.

STEP 3. Assemble Parts

◆ Attach garden hose to lower drain hole

Screw in the $\frac{1}{2}$ " PVC male adapter to the lower drain hole. The hard PVC threads cut matching grooves into the soft plastic of the barrel. Unscrew the $\frac{1}{2}$ " PVC male adapter from the hole. Wrap threads tightly with teflon tape (optional). Coat the threads of the coupler with waterproof sealant (optional). Screw the coated adapter back into the hole and let it sit and dry for 24 hours (optional). Attach 5' foot garden hose to the PVC male adapter. Attach the $\frac{3}{4}$ " x $\frac{1}{2}$ " PVC male adapter to the other end of the hose (this can be readily adapted to fit a standard garden hose).

◆ Attach drain hose to upper drain hole

Put the 1 $\frac{1}{4}$ " male threaded coupling inside the barrel with the threads through the hole. From the outside, screw the 1 $\frac{1}{4}$ " female barbed fitting onto the threaded coupling. Use silicone on the threads (optional). Attach 5' section of drain hose to upper fitting.

◆ Place atrium grate and screen in top hole

Using PVC glue, secure a piece of fine mesh window screen inside or outside of the atrium grate to filter out debris and control mosquitoes (optional). Place the atrium grate into the hole (basket down).

◆ Position the downspout

Position the end of your downspout so it drains onto the atrium grate on the rain barrel.

SUPPLIES

- ✓ One 55-gallon drum
- ✓ One 5' section vinyl garden hose ($\frac{3}{4}$ " OD x $\frac{5}{8}$ " ID)
- ✓ One 4" diameter atrium grate (basket used in garden ponds and pool skimmers)
- ✓ One $\frac{1}{2}$ " PVC male adapter
- ✓ One $\frac{3}{4}$ " x $\frac{1}{2}$ " PVC male adapter
- ✓ One 5' section of drain hose, drain line, or sump pump line (1- $\frac{1}{4}$ ")
- ✓ One 1- $\frac{1}{4}$ " female barbed fitting and one 1- $\frac{1}{4}$ " male threaded coupling
- ✓ One vinyl gutter elbow
- ✓ Drill (or a hole saw)
- ✓ Router, jig saw or coping saw
- ✓ Measuring tape

Optional

- ✓ Waterproof sealant (silicone caulk, PVC glue)
- ✓ Teflon tape
- ✓ Fiberglass window screen material or mosquito netting
- ✓ Cinder blocks or wooden crate

Sources

Pepsi Bottling Company

Charlie Dickerson #410-366-3500

South River Federation

Rain Barrel Community Action Team

#410-721-0661

actionteams@southriverfederation.org

Arlington Echo Outdoor Education Center

www.arlingtonecho.net

Maryland Green Building Program

www.dnr.state.md.us/smartgrowth/greenbuilding/rainbarrel.html



Tools and supplies



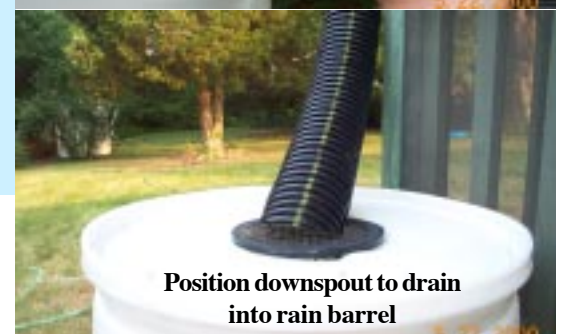
Cut hole for atrium grate (for filtering leaves)



Attach garden hose for watering



Attach overflow hose



Position downspout to drain into rain barrel



This instructional flyer was created by the South River Federation and the Center for Watershed Protection August, 2002



This project was funded through a grant from the Chesapeake Bay Trust

