

# How Can I Make a Rain Barrel?

## Environmental Assessment & Innovation Division EPA Region 3, Philadelphia, PA

A rain barrel is a system that collects and stores rainwater from your roof that would otherwise be lost to runoff and diverted to storm drains and streams. Usually a rain barrel is composed of a 55 gallon drum, a vinyl hose, PVC couplings, a screen grate to keep debris and insects out, and other off-the-shelf items. A rain barrel is relatively simple and inexpensive to construct.

### Materials

- 1 - 55 gallon polyethylene plastic barrel (may be available for free or low cost from commercial car washes, bottling companies or other food businesses that use liquids.)
- 1 - 10 foot length of 2 inch PVC pipe
- 1 - 2 inch PVC elbow
- 1 - 2 inch female threaded by 2 inch PVC elbow
- 1 - 2 inch male threaded by 2 inch pipe adapter
- 1 - tube silicone sealer/cement
- 1 - 1/2 inch female threaded silcock (aka outdoor faucet or hose bib)
- 1 - 1/2 inch threaded bushing
- 1 - 1/2 inch female threaded socket
- 1 - roll teflon tape
- 1 - 1 foot by 2 foot piece of old or new screen fabric
- 1 - 1gallon plastic bucket, tub or flowerpot
- 4 - cinder blocks
- Optional - paint to match your house color

### Tools

- Jig Saw
- Power Drill with 3/4 inch Spade Bit
- Scissors
- Pipe Wrench and Pump Pliers
- Screw Driver
- Hack Saw
- Tape Measure and Level

**Step 1 - Inflow** - Cut a hole in the top of barrel to allow rainwater to enter the barrel and to access the inside of the barrel. The hole should be just large enough to snugly fit the 1 gallon plastic bucket, tub or flowerpot. The bucket will be used to support a screen to keep mosquitoes and debris out. Cut a 3/4 inch hole in the bucket.

**Step 2 - Spigot** - Drill a 3/4 inch hole close to bottom of the 55 gallon barrel. (Don't drill the hole too far down inside the barrel where you can't reach it from the access hole on top or else you may need the help of a friend with very long arms!) Put teflon tape on the 1/2 inch bushing and thread it into the silcock or hose bib. Now carefully thread the other end of bushing into the 3/4 inch hole in bottom of barrel. It should fit snugly in the hole and cut threads in the plastic as you screw it in. Now unscrew it from the barrel, apply teflon tape to the threads of the bushing and apply silicone to the outside of the flange on the silcock. Screw it back into the hole and into a 1/2 inch socket on the inside of the barrel.

**Step 3 - Down Spout Modification** - Prepare the area under the down spout where you want to install the rain barrel. Remove the old down spout and splash block and level the area where the barrel will sit. Place the concrete blocks so they are sloped slightly downward away from the house. Set the barrel on the blocks. With a hacksaw cut the down spout so it is just long enough to fit into the bucket on top of the rain barrel.

**Step 4 - Overflow** - You should provide an overflow for water if the barrel fills to the top. With a jig saw, cut a hole in the side of the barrel large enough to fit the 2 inch male threaded by 2 inch pipe adapter. Place this fitting inside the barrel and thread it into the 2 inch female threaded by 2 inch PVC elbow on the outside of the barrel. Seal with silicone. Cut a length of 2 inch PVC pipe long enough to reach the ground. Attach a 2 inch PVC elbow to the bottom of this pipe and cut another length of 2 inch pipe to connect to a splash block.