

How to build a Rain Barrel

Why should I have Rain Barrel?

A quarter-inch of rain falling on the average home yields a little more than 200 gallons of water. A rain barrel can be filled in a matter of minutes and provide a **simple, efficient, low-cost** method for homeowners to collect and recycle water.

Rainwater is naturally “softened” and is ideal for plants, both indoor and outdoor. Because it is not chemically “softened,” it does not leave lime spots and is great for washing cars and windows.

Rain barrels also help divert stormwater – collecting it before it passes over our urban or suburban environments on its way to our lakes and streams.

Materials & Tools

- Safety glasses
- 55 gallon plastic food-grade barrel
- 4' atrium grate
- Flexible downspout hose or diverter
- Window screen mesh
- Spigot (3/4")
(*hose bib, silcock, or other valve*)
- Teflon tape
- PVC for overflow (1 1/2")
 - 90° Elbow (*female threaded*)
 - Pipe adapter (*male threaded*)
 - X' length of PVC pipe
 - Hose Clamps?
- Y-Hose Adaptor
- Jig saw and blade
- Drill with 1 and 1 1/2 inch bits



4' atrium grate



Flexible downspout hose



Teflon tape



90° Elbow (female)



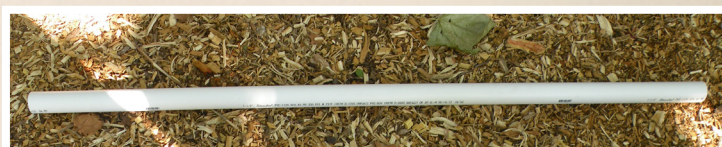
Pipe adapter (male)



Spigot (3/4")



Sealant



X' length of PVC pipe



1" & 1 1/2" drill bits

Disclaimer: When working with power tools, follow proper safety procedures. Always wear safety glasses and keep fingers clear of all blades and bits.

Inlet

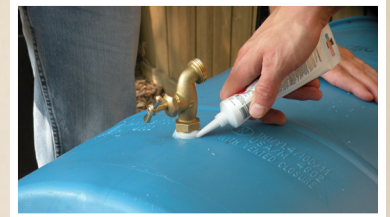
- Cut hole in top for 4" atrium grate.
 - Use the atrium grate and trace around the outside of the grate to create an outline
 - Drill starter hole big enough to accept the blade will be used to cut the opening. Cut out the hole for the atrium grate using a jig saw or other instrument.
- Insert grate to check size.



Outlet/ Spigot

Spigot should be placed as close to bottom of barrel as possible with enough room to hook up a hose or fill a watering can.

- Drill a hole at desired location near the bottom of the barrel using a 1-inch drill bit or trace around the spigot and cut a hole with a jig saw.
- Thread a ¾ inch spigot into hole and unscrew. (will cut threads into the hole)
- Wrap spigot with Teflon tape and screw into outlet hole.
- Optional- apply silicone chalk on the outside of the barrel where the spigot is screwed in.



Overflow

An overflow is necessary to give the water an escape route when barrel is full and doesn't back up into downspout or flow over top of barrel. Direct away from building foundations.

- Cut a 1½ inch hole near the top of the barrel.
 - Trace an outline near the top of the barrel along the inside edge of the non-threaded end on the pipe adapter
 - Drill hole with a 1½ inch bit or drill a starter hole inside the outline and cut hole using a jig saw
- Using the hole cut for the inlet insert the threaded end of the pipe adapter through the over flow hole.
- Place a bead of silicone caulk along the edge of the overflow hole on the outside of barrel.
- Thread the 90° Elbow onto the pipe adapter. (*PVC cement optional*)
- Measure and cut PVC pipe to the desired length for the overflow. (*size of barrel plus height of stand*)
- **Optional-** attach a 90° Elbow to the bottom of the overflow pipe and additional length of pipe to direct water away from foundation.



Installing Your Rain Barrel

Barrel Placement

- Area of roof watershed (bigger the area, more barrels needed to capture water, if desired)
- Distance from garden

Base/Stand

- Determine desired height for clearance from the ground
- Height also creates pressure to drain barrel
- Needs to be able to support 450 lbs
 - Use pre-made stands or build one out of wood, cinder blocks, retaining wall blocks, pavers, etc.
- Needs to be level to ensure barrel does not fall over when full

Downspout Modification

- Place barrel on stand at desired location and mark existing downspout where you wish to cut depending on method you are using to direct water to rainbarrel (flexible downspout hose in the example)
 - Use tin snips to cut to desired length
- Connect downspout hose to the downspout
 - Optional- apply a thin bead of silicone caulk along the edge of the inlet opening to seal around the flange of the atrium grate
 - Optional - cut a 1' x 1' square of window screen to place inside the atrium grate and fold excess over the edge of the atrium grate
 - Screen will need cleaned regularly to keep out smaller debris out and mosquitoes
- Attach the flexible downspout hose to the atrium grate with a 4" hose clamp
- Trim screen (if necessary)



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Additional Resources

<http://www.rainbarrelsiowa.com/>

<http://www.epa.gov/reg3esd1/garden/rainbarrel.html>

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