

# SCIENCE FROM HOME



## Rainwater Collection

There are multiple ways to collect rainwater - depending on your home and what size yard you have, your choice might be different! We are only going to show you how to make ONE option - but we will provide resources for other options! If you live in Philadelphia, make sure to check out Philadelphia Water's Rain Check Program about specific guidelines for Philly and for tools to find your best solution!

Rain barrels allow you to store rainwater that comes off your roof. A 1,000 square foot roof has the potential to collect 600 gallons of water for every inch of rain that falls! This means that you can collect a lot of water with a rain barrel. You can use rain barrel collected water to do things like water your flowers, wash your cars, water your lawn or similar activities that DO NOT involve drinking the water. You should be careful about using untreated water in your garden with plants that you will eat.

### Know before you begin

- This activity can be done inside or outside
- All supplies are easy to find
- Adult supervision is required
- Please choose a safe space for this activity
- Use proper safety precautions with all tools

### Materials

Rain Barrels

1 large dark colored plastic trash can

1 tube of sealant

1 spigot

2 metal washers

2 rubber washers

1 hose clamp

A drill

Mesh material with hole small enough to prevent debris from entering

Optional: Downspout extensions/elbow

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## Instructions

1. Drill a hole near the bottom of the barrel. This is where you will put the spigot.
2. To insert the spigot - place a metal washer, then a rubber washer, on the spigot. Then, put a ring of waterproof sealant over the rubber washer. Insert the spigot in the hole. Then, put a rubber washer and the metal washer on the spigot. Finish with the hose clamp.
3. In the lid of the trash can, cut a hole that will fit your gutter downspout. This will allow the water to enter the collection barrel from your downspout. Then, drill a few holes in the lid in other places to allow for overflow.
4. Take off the lid. Place a sheet of the mesh material over the trash can. Cut down the material as needed - the material should cover the opening with excess.
5. Put the lid back on, and line up the hole in the top with your downspout.

## Other Options for Rainwater Collection Rain Gardens

Rain Gardens help to redirect and absorb rain that falls around your home. You create a rain garden by making a shallow depression full of native plants that specifically absorb water well. Once you establish a rain garden, you don't have to worry about mowing the lawn in that area, and you can also benefit the local wildlife!

Check out [this video](#) from New Hampshire Department of Environment Services about how to build a rain garden and [this website](#) from Jersey-Friendly Yards for more information.

## Downspout Planters

Downspout planters are decorative planter boxes that are connected to the downspout system of a house and absorb and filter stormwater. This might be a great option for you if you do not have a lot of yard space for a full rain garden! Check out [this presentation](#) from Raritan Headwaters for more information about downspout planters and how to build your own!

## Resources

[Make a Rain Barrel to Save Water](#)  
[Rain Water Barrels 101](#)