# How To Make an Eternal Terrarium

There are many reasons that you might enjoy having plants, they are fun to watch grow, they liven up the room, and they are a nice decoration. However, if you are like me, you might find yourself forgetting to water them, prune them, or put in any effort to maintain them. Luckily for us there is a very simple way to get around this dilemma. Eternal ecosystems. Otherwise known as closed terrariums, these ecosystems are sealed off. They maintain their own oxygen and water cycles, requiring you to provide only a light source. These terrariums require a little bit more effort to initially setup, but with a little luck, will require no further maintenance. Terrariums setup in the following way have been known to thrive for decades without being opened.

## Materials:

Many of these items can be found in your backyard or at a park; however, a few things will need to be purchased from a store with a home and lawn care department. You can also buy any of these items online.

### **Sealable glass container** (1 US liquid gallon)

You can use a glass or plastic container; it just needs to be clear with a sealable cap. Habitats of this type can be made in almost any size. Some people make

these in soda bottles, and others use containers that hold more than 100 gallons. These instructions will work best for glass containers that are approximately one gallon.

## Substrate

The substrate is the substance your plantlife will take root in. You can simply collect dirt from a fertile location, i.e. dirt that has plants growing in it. You can also purchase potting soil. Using dirt, that has plants growing in it, ensures that your dirt already has springtails in it, allowing you to omit that step. I would recommend grabbing dirt from a fertile location rather than buying potting soil.

## Charcoal

I recommend using activated charcoal. You will find that any charcoal meant for filtering purposes will work. The charcoal will act as a filter, removing toxins that will build up over time. Without this layer, your plants may poison themselves with the gases they give off.

[DO NOT USE CHARCOAL MEANT FOR GRILLING, OR LIGHTING FIRES]

## Gravel

Fine-grained gravel will work the best. Terrarium pebbles, or sand will also work well. The gravel will act as a water reservoir to help recreate a water cycle for your plant life. This feature ensures your terrarium will not be overridden with mold.

## Mesh

The mesh will act as a filter layer to stop the substrate from settling into the charcoal and the gravel. Landscaping fabric is most commonly used, but any nontoxic mesh, fine enough to let water through, will work. [DO NOT USE BIODEGRADABLE MESH]

## Plantlife

There are lots of options to choose from, here is a list of the most popular options:

- Creeping Fig
- Artillery Fern
- Begonias
- Maidenhair Fern
- Lemon Button Fern
- Club Mosses
- Pothos
- African Violet
- Bromeliads
- Moon Valley friendship plant

If any of these plants aren't easily available, another option used is to go outside near a flowing water source and scoop up some plant life and the dirt below it. You can use the dirt as your substrate, and there are likely already springtails in the dirt, allowing you to omit that step.

**Springtails** (optional)

Springtails are small organisms that are ideal for terrariums. They consume dead plant matter and will help keep the subsequent generations of plants nourished.

**Living fauna** (optional)

You don't have to include any living fauna in your terrarium, if you do decide to include any you might want to consider worms or 'roly polys'.

[DO NOT INCLUDE ANY VERTEBRATES IN YOUR TERRARIUM]

**Distilled water**

Be sure to use distilled water to ensure you don't add any unwanted minerals to the ecosystem you are creating.

# Steps

1. Clean and dry the inside of your glass container, to ensure there aren't any chemicals that would hinder the ecosystem.


2. Pour the gravel down until it reaches a little over an inch from the bottom; try getting this layer as even as possible.

3. Next, evenly disperse the activated charcoal over the gravel. You wont need to put in as much charcoal as the gravel; try to make this layer about a half-inch deep.

4. Place your mesh over the charcoal. Depending on the size of the opening on your container, you may have to fold the mesh like an umbrella, placing it into the jar point down. Once it clears the opening, it will unfold to cover the charcoal.

5. Pour the substrate in, make this layer about 2-3 inches deep. Use a long stick to even out the dirt. Then use the stick to make little indents to set your plants in.

6. Carefully place your plant life in the indents created in step 5. You may need to use a stick or some tongs to situate your plants as desired. If

you want to include any décor; rocks, twigs, or dead leaves, put them in during this step.

7. Set your springtails in along with any other living fauna, after the plants and decorations; we don't want any insects getting buried.

8. Water the plants until the soil is damp but not completely saturated. It is common practice to use a baster to also clean the walls.

9. Screw the lid on the container. To ensure a proper seal, you can cover the opening in one sheet of plastic wrap before you screw it on. Place the terrarium in front of a light source. In front of a window is optimal but you can also use LED or fluorescent artificial light. [DO NOT US INCANDESCENT LIGHT]