

# How To Make Terrariums

**A Beginners Guide  
To Making Terrarium**



**Tips, Tools and Techniques**

# HOW TO MAKE TERRARIUMS

*THE EASY GUIDE TO MAKING BEAUTIFUL TERRARIUMS  
INCLUDING PICTURES AND FOUR TERRARIUM PROJECTS*

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This book is part of the storm the castle series of books. Lots more tutorials on terrariums, including videos, on my website here:

<http://www.stormthecastle.com/terrarium/index.htm>

## A THANK YOU FROM WILL



First off I want to say thank you for buying this e-book. I hope you enjoy it and I hope it helps in your pursuit of making beautiful little terrariums. And I want to say thank you for visiting my website ([StormTheCastle.com](http://StormTheCastle.com)). It's great to have you as a web visitor. And, if you have any suggestions on how to make my website or this e-book better I would love to hear about it!

And, if you take any pictures of your terrarium be sure to email them to me! I would love to put the pic or pictures on my website so other people can enjoy your terrarium too.

Want to see pictures of other peoples terrariums? I have hundreds of them right here:

[Pictures of Terrariums on my website](#)

I have been making terrariums for years and it is my pleasure to share what I have learned with you! Have fun!

## TABLE OF CONTENTS

### Table of Contents

|   |  |
|---|--|
| <a href="#"><u>Introduction</u></a>                                 |  |
| <a href="#"><u>A Brief History of the Terrarium</u></a>             |  |
| <a href="#"><u>How a Terrarium Works?</u></a>                       |  |
| <a href="#"><u>Plant Selection</u></a>                              |  |
| <a href="#"><u>Containers, containers</u></a>                       |  |
| <a href="#"><u>Tools</u></a>  |  |
| <a href="#"><u>An overview of how the terrarium is made</u></a>     |  |
| <a href="#"><u>Project 1 The Box Terrarium</u></a>                  |  |
| <a href="#"><u>Project 2: A Closed Jug Terrarium</u></a>            |  |
| <a href="#"><u>Project 3:An easy Soda Bottle Terrarium</u></a>      |  |
| <a href="#"><u>Project 4: Medieval Theme</u></a>                    |  |
| <a href="#"><u>Some tips for starting out easy</u></a>              |  |
| <a href="#"><u>Caring For your Terrarium over the long term</u></a> |  |
| <a href="#"><u>Some Final Tips and Thoughts</u></a>                 |  |
| <a href="#"><u>List of Plants Suitable for terrariums</u></a>       |  |
| <a href="#"><u>Resources/More</u></a>                               |  |

## WHO THIS BOOK IS FOR

This book is for adults, teens and children who want to make a terrarium. It covers all the basics of what a terrarium is, how they are made and most importantly how they work. Even if you don't have a "green thumb" you can have a successful terrarium. This book shows you how. And it is done by example. We actually make terrariums in the book.

# INTRODUCTION

A terrarium is an amazing thing. It is a miniature eco-system all unto itself, able to sustain itself for long periods of time with very little care. Just a moderate amount of sunlight is all it will need – as long as you make it right and follow some simple rules. I will show you how to successfully make a nice terrarium that should give you a lot of satisfaction and a bit of fun.

## ABOUT TERRARIUMS

Technically a terrarium is a self-contained and closed system. It is in a container that is 100% closed. This is the truest form of the terrarium. And it is important because it forms a self-sustaining eco-system. But terrariums really take a whole lot of different forms and nowadays a collection of plants in some kind of container could also be considered a form of terrarium. And, these containers sometimes also have small creatures like turtles, frogs, or lizards. They are often called “terrariums” and this is ok but they are really “vivariums”. This is because when it has some kind of a critter in it the health and well being of the small animal comes first. The plants become secondary.

## OPEN OR CLOSED?

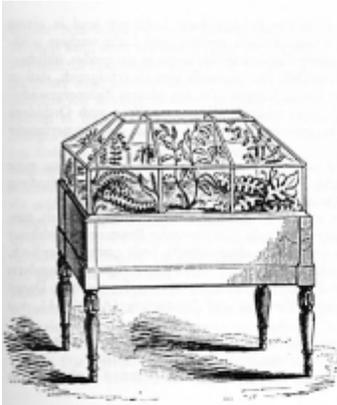
The truest form of terrarium is that of a completed closed system, a bottle, jar, box or container that is sealed. This gives us a true miniature eco-system. And a lot of this e-book covers that very subject. But, I have relaxed those rules a little bit and we will cover open container terrariums. The only real stipulation with that is that it is some kind of a container just not completely closed.

In this e-book I will take you through a wide variety of terrariums, tell you how to make them, give you some good rules of thumb on planting, and on selecting the plants. I also show you the basics of the container which is pretty important and makes a big difference in how your terrarium looks and acts.

We will actually build for different terrariums and of both types closed and open.

# A BRIEF HISTORY OF THE TERRARIUM

Where did it all start?



Nathaniel Bagshaw Ward is the man who first discovered the terrarium. He was an amateur botanist who lived in London in the early 19th century. He published a book in 1842 entitled “On the Growth of Plants in Closely Glazed Cases”. And in the book he describes his discovery. I will summarize it a bit for you here.

Being an amateur botanist he was very interested in plants of course and one of his dreams was to have a big wall with Ivy, ferns, and moss growing on it. So, he built the wall and tried growing these plants on it. But they kept dying. He couldn't keep them alive because London at that time was a manufacturing center and, as he describes it, the factories poured large amounts of soot on the city.

This sooty and polluted environment wasn't conducive to the growth and health of his plants.

He was doing another experiment, in the summer of 1829 where he buried a chrysalis in some mould (soil) in a closed jar. He observed that as the day got warm moisture formed on the glass of the container, collected then returned to the mould (soil) in a daily cycle. Before the chrysalis made its transformation he saw that a seedling fern and a grass sprouted in the container.

The container, he theorized, had all the conditions needed for their growth. And one important thing that his backyard didn't have – it was free of soot!

He brought the container in his house and placed it on a window. The plants inside lasted for four years. And would have lasted longer if the lid hadn't rusted and allowed rainwater inside.

This set him off on a variety of experiments with different kinds of plants in glass containers.

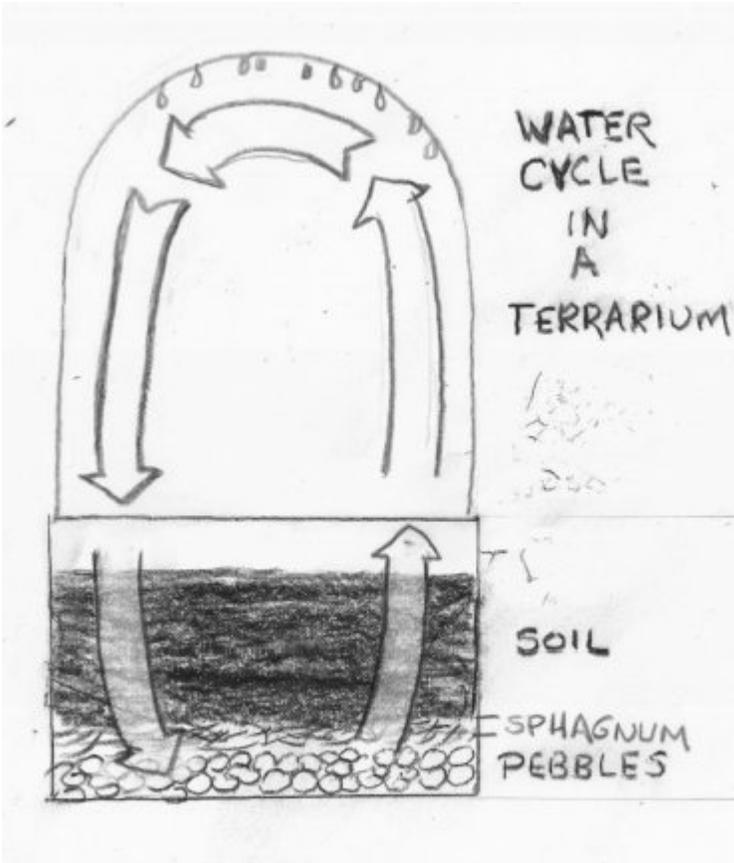
The whole art of this took Victorian England by storm and people began keeping plants in containers in their house.

But, the art of the terrarium also had a big impact on shipping. These containers were brought onto ships where they were used to protect delicate plants during long ship journeys from exotic locations. One of the biggest things was that the containers protected plants from the corrosive and damaging sea salt air – much as Ward's plants were protected from the soot filled air of London.

They were placed in tight glass boxes with a couple of rules. Let sunlight in, preserve the humidity and keep the salt air out!

It causes a boom in the shipping of exotic plants like Tea and Breadfruit!

## HOW A TERRARIUM WORKS?



The terrarium, as we said, is a miniature eco-system. This is a fascinating thing and it works because of a pretty simple process of water flow. The graphic here shows this water flow.

Sunlight causes the water inside the container to evaporate and accumulate on the sides and top of the glass covering. As it accumulates it flows back down the sides into the soil. This process is repeated indefinitely.

So we have a nice flow of water through the system.

We help this process a little bit by the way we build the terrarium. For example we have the glass or clear plastic which

allows the sunlight in but doesn't allow the moisture out. And we have a layer of pebbles on the bottom of the container. This causes a reservoir to hold the water without waterlogging the soil.

We can also purify this water as it flows by adding a layer of activated charcoal. The water flows through the charcoal and the impurities are captured.

And you can take a little optional step. There is a thin layer of sphagnum or Spanish moss between the stones and the soil. This layer prevents the soil from falling down between the stones and causing a muddy mess. It is optional but still a good idea to do.

## PLANT SELECTION

Some Rules of Thumb -if you are shopping in the nearby home improvement store or nursery: Try to get plants that have similar needs in terms of watering and light. They will all be placed in the same environment so you can't alter the water/sunlight from plant to plant.

I have a very extensive list of plants that are suitable for terrariums at the end of this e-book. And, I encourage you to experiment with this. Particularly if you are looking to make a themed terrarium.

### AESTHETICS

When selecting plants for your terrarium consider a couple of aesthetics. Generally an odd number of plants is best, 3, 5 or even 7 and choose plants that have different heights and shapes. This will make for a more interesting arrangement that makes better use of the space inside the container. Color is also something to consider. I generally like mostly greens with just a splash of color somewhere.

### A QUICK OVERVIEW OF SOME TERRARIUM PLANTS YOU CAN USE

The very first terrarium by Ward had a fern in it and his success with this holds true for all terrariums, ferns often do very well in them. So, you can't go wrong if you want to use ferns in your terrarium. They are hardy and do well in the moist terrarium environment.

If you are looking for flowers you can try anything from the Sinningia family. They are hardy and stay relatively small.

Some others: Baby Tears (Helxine), Dwarf Palms, Prayer Plants, Peperomias (all types), Ferns and mosses (many types), Chinese evergreen, Artillery Plant (Pilea Microphylla), Selaginella, (makes great ground cover)

At the end of this book I have a very extensive list of plants that do well in terrariums.

### SOIL SELECTION

Common sense rules tend to apply when selecting the soil for a terrarium. Typically, potted soil for African violets tends to work very well. If you are using a specific selection of plants you can use a soil specifically made for those plants. Succulents are a good example of variation in soil. If you are making a terrarium with succulents you can purchase fast draining soil that is perfectly balanced for them.

## CONTAINERS, CONTAINERS



This part of terrarium making can be a whole lot of fun. And with a little creativity you can really go all out with the container. It makes a big difference in how your terrarium ends up.

We talked about Closed and Open terrariums. Let's first take a quick look at containers for open terrariums. Here is a picture of some nice glass containers that would be good for terrarium making. One of the things to look for is how the container curves to close back again. This will help to keep the

humidity inside the container a little bit high which is great and helps to create the cycle of water flow that we talked about -albeit in a limited way

## JUGS AS CONTAINERS



Some of the best terrariums are in jugs of various types and sizes. I have a picture here that shows you some wonderful options. The large container is a six gallon carboy that is used for wine making. Also shown is a wine bottle, a 2 liter plastic soda bottle, an olive jar and a 1 gallon jug. So, you have lots of options and you don't have to make the terrarium vertical like shown. You can also lay the container down and make the terrarium horizontal which can also be quite appealing.

## SELECTING GLASS CONTAINERS



The lesson that I want to show you with all of this is that you can get very creative with the selection of your terrarium. Have fun with it and be creative. I have even seen terrariums made inside wine glasses and other things. The picture here shows a terrarium I made inside a tabasco bottle. I probably should have planted hot peppers in it!

## BIG TERRARIUMS IN AQUARIUM TANKS



Big aquarium tanks like this one shown here can make a wonderful terrarium. But, if this tank

used to hold fish or different types of little creatures you have to really make sure you clean it well before transforming it into a terrarium. The urine of various creatures can alter the soil.

## THE ART OF LOOKING SIDeways



And look at containers from more than one perspective. Laying some on their side will also make a great looking terrarium much like this one here. I show you how to make this one in project 4 of this e-book.

### MAKING YOUR OWN CONTAINER

You can also make your own container.

Here is one that I have made and I have complete instructions on how you can make this later in this e-book

(Project 1). The major point is that the part above the soil is clear plastic (Lexan).



## TOOLS

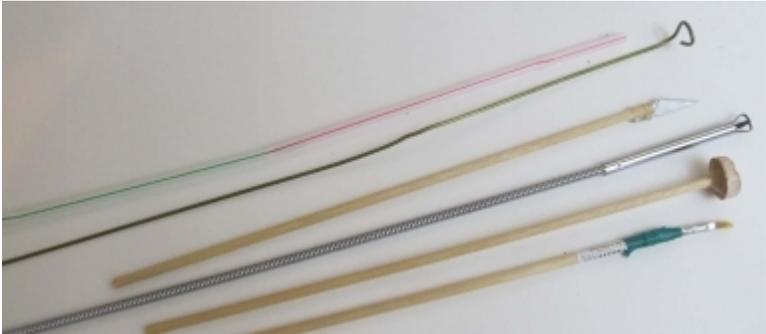
If you are making an open terrarium or one with a removable top you don't need much for tools. It will be pretty easy to make the terrarium and install the plants. But if you are making a closed terrarium out of something like a jug with a small opening then you are going to need some tools. These enable you to reach inside through the opening and work on things.

Here is a review of some tools that will come in handy.



You can improvise a lot of tools with a common coat hanger. Cut it and shape it.

HERE IS A LOOK AT SOME TOOLS THAT I HAVE MADE.



## SUGGESTED TOOLS YOU WILL NEED:

Funnel – Kitchen funnels or rolled cardboard. This is great for getting the pebbles and soil into the terrarium.

Tiny shovel – for digging holes, dowel, or a long tea spoon. You can even tape a tablespoon to the end of a wooden dowel

Placer for placing the plants and other objects – Coat hanger with a loop at the end, or a claw tool (grabber tool)

Tamper – something to tamp down the soil after the plant is placed ( cork on the end of the dowel or a piece of sponge)

Tweezer – long tweezer to pick up debris afterwards

Duster – Soft artist paintbrush on the end of a dowel , to clean/dust the soil and leaves off the plants

Watering Device – baster/eye dropper or even a straw to act as a pipette

Pruner – xacto knife or razor knife on a dowel

Moisture Tester – drinking straw or pipette to get a sample of the soil

## HERE IS A CLOSER LOOK AT SOME OF THE TOOLS



With the exception of the grabber tool these are all home made.

From Top to Bottom:

A straw for getting a soil sample (its' actually two straws connected together for length)

A coat hanger bent in a hoop as a placer or hole digger

An xacto blade hot glued to the end of a dowel. This is great for cutting and pruning the plants

after they are in the terrarium

A grabber tool. This is terrific. I love this tool. You can get it in a hardware store. It is perfect for grabbing and holding plants so you can place them in the terrarium.

A piece of cork glued onto the end of a dowel, this is a tamper tool. You can use cork or a small piece of kitchen sponge.

A soft bristled artist brush for cleaning and dusting inside the terrarium and the leaves of the plants.

Not shown – You can also use long handled tweezers for placement and for cleaning up little scraps inside the terrarium. In this ebook have a tutorial on how to make tweezers out of a coat hanger.

The Pictures below show the grabber tool. This is excellent for grabbing and placing plants.



## MAKE TERRARIUM TWEEZERS FROM A COAT HANGER

Terrarium Tweezers are something that I have kind of made up. They are a very long pair of tweezers that you can use to work on your terrarium and do things like dig holes or place plants in holes. It's very handy.

If you are making a jug terrarium the biggest challenge you will face is how to effectively hold and place the plants through the jug opening. If you have a grabber tool that is great. But if you don't have one you can make your own tool out of a coat hanger.

You can make a pair in any length needed. You can make them out of copper wire or a coat hanger. It just takes a little cutting and some bending.

There are a few different ways you can make them and I will point some important things out. The picture here shows the easiest tweezers.



There are two basic types you can make: Already Closed or Already Open. The pair you see in the picture above are already closed. This means that their relaxed state is with the tweezers closed. This is probably the better configuration because it will automatically clamp down on things. You squeeze the handle to open the tweezers.

If it isn't tight enough you can add a rubber band to hold it together.

# AN OVERVIEW OF HOW THE TERRARIUM IS MADE

Generally there are four layers in a terrarium



In the photo from the bottom up:

- A layer of pebbles for drainage and water accumulation
- A layer of Sphagnum or Spanish moss to keep the layers separated
- A thin layer of activated charcoal (one-half inch is enough) This acts as filtration for the terrarium as the water cycles through it. This layer is optional. But a good idea if you are making a closed terrarium and you want to improve its chances of thriving for a long period of time.
- A layer of soil

## A LOOK AT THE TWO MAJOR TERRARIUM TYPES

There are two major types of terrariums and they are the closed container and open container. The closed container is a sealed jug or other container. It is sealed off and a complete system unto itself. This type might take a little bit of effort in making but it can often go for very long periods of time without care. The open container is easier to care for but will need regular watering.

### *CLOSED TERRARIUM*

Once the cork goes on this terrarium it becomes a closed terrarium. This is the purest form of terrarium and it is true to the original terrariums created by Nathaniel Ward. It is a closed eco system. And if you get the water and light balance right it can stay closed for years.

## *OPEN TERRARIUM*

This venus fly trap terrarium is an open terrarium. The curved shape of the bowl will help keep the humidity and moisture up which is great for a terrarium. Consider using a curved side container for your terrarium. This type of terrarium is pretty easy to care for but you have to water it on a regular basis.



# PROJECT 1 THE BOX TERRARIUM

In this project I show you how to make the complete terrarium including the wooden box and the lexan top.

LET'S BUILD IT



I started out with a board of pine wood. The wood is six inches in height and about  $\frac{3}{4}$  of an inch thick. Cut four pieces. Two pieces are twelve inches long and two pieces are eight inches long.



Drilling out pilot holes for the screws insures the box goes together nice and straight.



Screw the box together like this. Pretty simple!



Add a bottom.

I used a thin piece of plywood. Use plenty of nails to secure it well. We don't want it to leak out. Then stain the whole thing inside and out with a wood stain. This will preserve it. The moisture from the soil will rot the wood so staining will keep it for a longer period of time. Just be sure the stain is absolutely dried before adding soil.



## Make the clear plastic cover

Home Improvement stores sell a product called Polycarbonate or Lexan. It's a type of plastic that is transparent. I bought several pieces of it. You can see the sheets in the picture. Note that it has a sheet of thin plastic covering both sides. You simply peel this protective covering off when you are ready to use it. The lexan polycarbonate sheets that I used are labeled as .093 inch thick.



The glue that I used is called "100% Silicone Sealant for Plastic sheets and other plastics". There are a whole lot of different sealants that you can use including clear silicone caulks.

It can be a bit tricky to glue these pieces together into a nice cube shape and keep it all straight. Let me show you a trick.

Cut your five pieces of lexan and slide them all the way down into the box.



This way they are exactly the right shape and size. Take the top sheet off and glue the sides all together. Then glue the top on. Sitting in the box like this holds it all together nicely while it is drying. Once it is dry you can take it out.

Next add small pieces of wood all around the inside edge. Mine are placed one inch down from the top lip. The clear plastic box you made will now sit on this.



And there you go. The terrarium box is complete.



Now let's prepare it for the plants.

Add about an inch layer of pebbles or small stones.

Then add your layer of Sphagnum or Spanish Moss. Spread it out as if it were a thin blanket covering all the pebbles.

Add your optional activated charcoal. A thin half inch layer is good. You don't need a lot of it.

Finally add your soil. I have also added some lava rocks on

the surface of the soil.

We are ready for our plants.

Next we add our plants. Do this by poking a hole in the soil then adding the root ball of the plant into it. The Picture below shows the completed terrarium. In an accessible terrarium like this I keep the plant tags with the plants. I just stick them right in the soil. It helps me to care for the plants long term.

And a container like this gives us the best of two worlds. It is a closed terrarium so it will need very little care. But you can take the cover off at any time in order to do maintenance such as trimming dead leaves.

# PROJECT 2: A CLOSED JUG TERRARIUM



Of all the terrarium projects that I have done this kind of project is the one I enjoy the most. I think that it looks the best but it is also the most challenging to make.

This is because it reminds me of the challenges that a ship in a bottle poses. How do you get all those things (in this case plants) through the thin opening of the jug?

No need to worry about that. I will show you a series of neat tools that will help. And you can make many of these tools with common things found around the house like a coat hanger.

This tutorial uses a six gallon wine makers jug, called a carboy. But all of the techniques apply to just about any size jug including a one gallon jug. So, if you don't want to be this aggressive you can try your hand at the smaller one gallon size.

Just make sure you use a glass container with clear glass. Colored glass is generally not good for a terrarium. It blocks too much of the light that the plants need.

## LET'S MAKE IT

Here is a look at the materials used to make this terrarium. Not including the plants!

From Left to right:

African Violet Soil

Sphagnum Moss

Soil cover (pebbles)

Lava Rocks (For Barbecue Grills)



Before Starting, be sure to wash out your glass container with very light soapy water. Dish detergent is good. Just be sure to rinse the container out well before starting. We don't want any soap residue to remain in the container. It will permeate through everything given enough time.

Put a layer of pebbles in the container. For a typical

container about a one inch thick layer is good. But for a big container like this put about a two inch thick layer.

Next put a layer of Sphagnum moss right on top of the pebbles. Break it up as needed to fit it into the container. Then use a tool to compress it all down. It should form a nice layer about an inch thick.

This picture shows me using the tamping tool to tamp down the Sphagnum. You would use this tool again to tamp down and even out the soil. (The tool is a piece of cork hot glued to a long dowel)

At this point you can put down your optional layer of activated charcoal. A thin layer of one half inch is quite good.

Next put your layer of soil. I used a funnel to slowly pour it into the jug. Let it form a nice cone right in the middle of the jug. This will help to keep the glass of the jug nice and clean. Once you have enough soil in the jug you can then gently spread it out and even it with a tool. This method of pouring a cone of soil then spreading it out will keep the glass clean.

At any point during the making of the terrarium you can always attach a piece of paper towel to a coat hanger and use that to reach inside and clean soil and sphagnum off the sides of the jug.'

Note that Once your terrarium is completed and sealed you don't want to clean moisture off the glass! It will fog up on the inside glass but that is a good thing. It is how the water will cycle through the terrarium – keeping it happy for a long period of time. You would wipe it only if it is overwatered and you want to reduce the water.

Next I used pliers and a hammer to break up the lava rocks into pieces small enough to fit through the mouth of the jug.



Arrange them in a way that is pleasing to look at. I created a hill of them off-centered in the jug. Pay particular attention to the various colors. I leaned toward using mostly pinkish rocks.

Next, use a dowel or some other long tool to create a hole for your first plant. I don't have a picture of that but make the hole pretty deep so you will easily be able to put the plant ball root right in there.

Now use a grabber tool, or the coat hanger bent into a hoop to force the plant through the mouth of the jug and right into the hole you made in the soil.

This takes a little bit of fidgeting but you will get it!



Then use your tamping tool and or a dowel to tamp down the soil around the plant.



## SOME QUICK NOTES ABOUT PLANTS, PLACEMENT, ARRANGEMENT AND CROWDING!

Think about your plants in their different heights and how that will look in the container. I put the higher fern plants toward the back and the ground crawling ivy near the front which gives an interesting look to it. And I recommend you be a bit sparse with the plants. Leave room for them to grow over time. It will be ok if it looks a little empty right now. It will fill out as the plants grow!

Testing your layout:

You can arrange the plants on a table first, moving them around looking for interesting and attractive arrangements before you place them in the jug. You can even draw a circle the same size as your jug. That would help.

Consider the viewer of the terrarium –

Think about how your terrarium will be looked at. Will people only view it from one side? You can arrange the plants for this kind of viewing. But, will people turn it around and look at it from all angles? If so then you should arrange the plants with that in mind.

This big six gallon terrarium is rather heavy so I won't be moving it around much. It sits on a table near a window. People will only look at it from one side. So I arranged the plants, and the miniature figures to give maximum viewing from one side.

I went ahead and added some miniature figures to my terrarium and this is a great idea. You can have some fun with this. Just make sure they will fit through the jug opening.

Mine is a tribute to the movie 300. I added only 3 spartans though! 300 would never fit!

And, with the little details you don't want them falling over or moving around in the terrarium so I Hot glued a pointed dowel to them. This way I just pushed it right down into the soil like a spike. They will stay in place.

## PROJECT 3: AN EASY SODA BOTTLE TERRARIUM



This is a fun little project for kids and it is very economical. I have been contacted by many teachers and school administrators in thanks of this project. It's just a lot of fun for kids.

If you are thrifty about this project it will cost you nothing or near to nothing. And it makes a great learning tool for kids. The whole point of it is that it is a miniature eco-system.

It is an easy project that anyone can do and it should take you about half an hour to complete it. This is a nice learning experiment to teach you about plants, closed environments; and while it is growing you can observe the life cycle of plants.

There are many different ways you can do this project. If you feel ambitious you can do the whole project without cutting the bottle. You simply put everything in through the hole at the top. When it comes time to transplant your plants into a bigger pot or into a garden then you will cut the bottle open. (Note: Whenever cutting with scissors or a knife please seek the help of a parent or adult)

### HUNTING FOR MATERIALS

A really fun activity for the kids would be to gather up the plants that will go in the terrarium. I have a picture here of some moss that I gathered for a moss terrarium. Moss would be great in a soda bottle terrarium.

### WHAT YOU NEED TO MAKE THIS SODA BOTTLE TERRARIUM

One 2-liter bottle of soda (with cap)

Potting Soil ( Or soil you dug up)

A handful of small stones or pebbles

A Marker

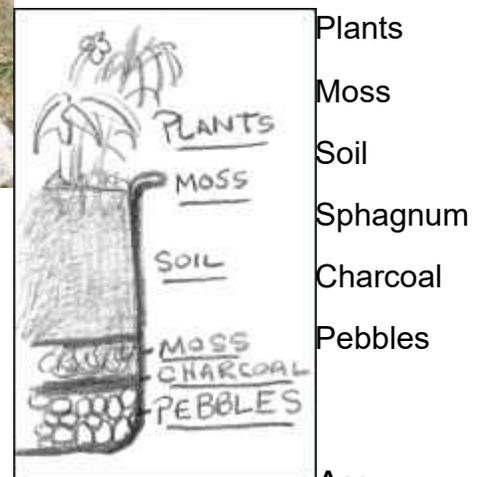
Scissors



Seeds or Seedlings (small plants) this is optional if you want to start right out with plants in your terrarium

Extra: If you want to make a really good terrarium you would also use activated charcoal and sphagnum moss. More on this below.

Here is how you arrange the materials in your bottle from the top down:



- Plants
- Moss
- Soil
- Sphagnum
- Charcoal
- Pebbles

AN

## EXPLANATION OF WHY YOU BUILD YOUR TERRARIUM LIKE THIS.

Why Pebbles? The pebbles at the bottom allow excess water to flow to the bottom of the bottle. This will prevent it from soaking the soil and making it muddy. As the temperature inside the bottle rises from sunlight the water will be drawn up into the bottle. It becomes like the earth with a nice cycle of water flow just like rain. Dew will even collect on the inside top of your bottle then slowly drip down onto the plants like rain.

Why the Activated Charcoal? If you put a thin layer of charcoal (1/2 inch) in your terrarium it acts as a filter purifying the water as it flows up and down. The plants and the bacteria in the soil can cause the inside of the terrarium to get very dirty and even to rot. You can purchase this kind of charcoal at an aquarium store or any well stocked pet store.

Why the Sphagnum or Spanish Moss? This simply acts as a screen to prevent your soil from settling down into the rocks yet it allows the water to flow smoothly.

Why the Soil? This is the nutrition for the plants. They will absorb the nutrients from the soil with their roots.

Why the Moss on the top of the soil? This is just to make it look nicer! It is totally optional.

## OKAY! LET'S BUILD OUR TERRARIUM

Step 1: Draw a line around the bottle about six inches up. I use a neat little trick to make a nice straight line. I rest the marker on the top of an upside down coffee cup then I rotate the 2 liter bottle. It makes a nice straight line.



Cut the bottle along the line with a pair of scissors. You may need to start a small hole in the bottle before you can cut it with the scissors. Please ask a parent or adult to help you with this cutting of the bottle.

Place a handful of stones in the bottom half of the bottle. About 1-2 inches deep should be good.

Place your other materials in the bottle -the charcoal, then the moss, then the soil. If you are not using charcoal or moss then put just the soil in. fill it to about 1 inch from the top.

Now Plant your seeds or your plants! You should plant 6 to 10 seeds and later as they grow you can pluck out some of the weaker ones and leave the 2 or 3 best ones.

Don't forget to water your terrarium before placing the top on. The soil should be moist but not soaked.



Now Place the top on. I recommend you squeeze the top onto the bottom so the top is on the outside.

If you have trouble fitting the two pieces together you can cut a slit about halfway down the bottom half of the bottle. this will help it close up a bit and make it easier to fit the top over it.

Congratulations your terrarium is completed. In a few days your seeds should germinate and in no time you will have a soda bottle terrarium that looks as nice as this one.

## TAKING CARE OF YOUR SODA BOTTLE TERRARIUM

There are two important factors you have to consider when it comes to your terrarium: the amount of sunlight it gets and the amount of water that is inside.

Once the plants have sprouted you should make sure it gets sunlight but do not leave it in direct sunlight for the entire day. It is a closed environment and it can get very hot inside.

Water - Look carefully at the soil in the terrarium. It should look moist but not soaked or too dry. Beads of water should form on the top inside near edge and these will drip down the sides and continue to water the soil. If it appears to be too wet you can take the top off and leave it uncovered for a day or two. This will dry it out some.

## PROJECT 4: MEDIEVAL THEME



This is a neat little terrarium that has a group of small medieval like structures in it. I show you a few advanced building techniques with this terrarium including working on a sideways bottle, making a quick stand, and how to get things in there that appear to be larger than the opening of the jug! I used a standard ship-in-a-bottle technique for this.

I cut four pieces of foam board to make the stand for the jug. I hot glued the stand right to the jug.



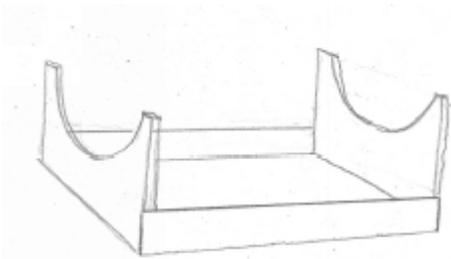
This is what the foam board stand looks like. You should cut it to the size of your container. It is simply four pieces hot glued together and once assembled it is all hot glued to the jug.

Let's take a look at the trickiest part of the terrarium. This is a tower setup that goes inside the jug. It is made up of three parts. There are the two towers and the bridge that goes between them.

All three parts are separated. I used a pin to put holes in all of them so I could run a thread through them all like the

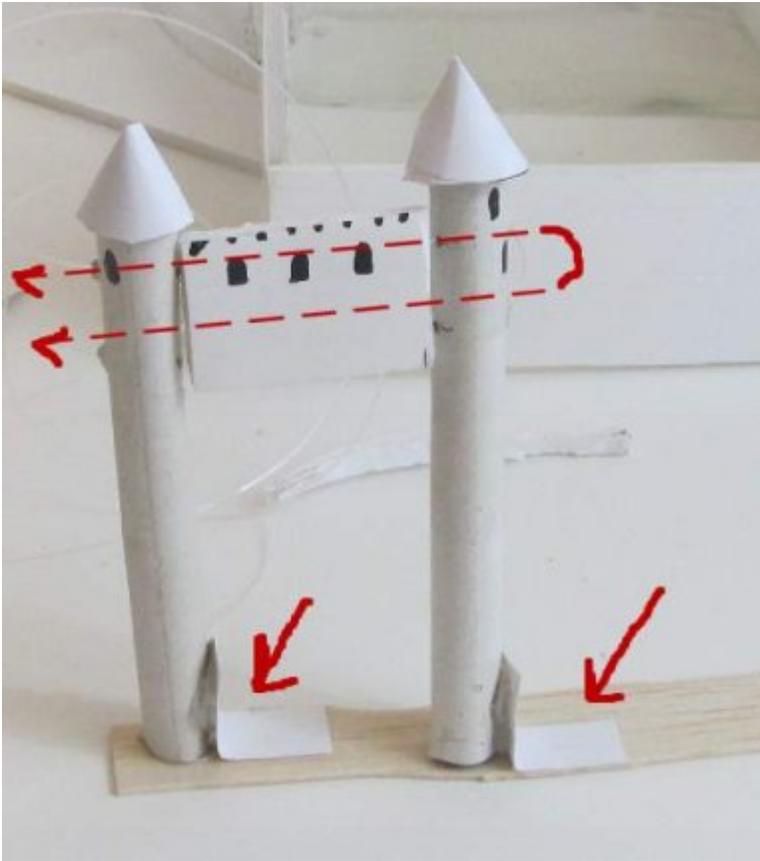
dashed red line shows. When you pull on the thread it brings all the parts together.

I will explain a bit more.



You can see the two arrows at the bottom. This shows the hinges. These hinges attach the two towers to the balsa wood base. This way I can fold everything down and slide it into the jug. Once it is in place I can pull on the threads and the towers will stand up.

This picture should help a bit. See how everything is folded down? The whole assembly is small enough to fit through the mouth of the jug.



You slide the assembly through the jug opening and glue it to the bottom inside of the jug. You leave the threads hanging out. Once the glue has dried you pull the threads which erect the towers.

Use a long tool to put glue on the inside bottom of the jug; slide the assembly into the jug and onto the glue. Once the glue has dried you can pull the strings and raise the assembly.

Here are two more techniques for adding objects to your terrarium.



This picture has three structures that go inside the terrarium. The first two structures have spikes attached to their bottoms. With these you simply press them into the soil once the terrarium is complete. The third brick tower-like structure is long enough so you glue it to the bottom surface of the jug. It extends up high enough to reach over the soil.



Now let's take a look at all of this. You can see the double (stringed) tower is in place, and the single tower on the right is also in place. These are all glued down. I have pulled the strings to raise the two towers. It all looks good and I have started to build the terrarium by placing a layer of pebbles in it.

Next we put a thin layer of sphagnum or spanish moss into the jug covering the pebbles.

Then use a funnel or roll up a sheet of paper to make a funnel and add a layer of soil to the jug. Put a nice thick layer for your plants. And use some kind of tool to tamp it all down nice and firm.

Now you can add your spiked buildings by pressing them into the soil.

I used a grabber tool to hold the building and get it into position in the jug.

This next picture shows me inserting the spiked building into the terrarium. It takes a little bit of fidgeting but you will get it. It's good to do the buildings before you do the plants.

Now let's install our plants.

You should always install the furthest plants in the back first. This way they are not in your way as you put in more plants.



I use a coat hanger bent to have a L-shape at the end so I can dig a hole for the plant to go in. The arrow in the picture shows you where I am digging the hole. Notice how I am doing the furthest plant first.

Next I use the grabber tool to grab hold of the root ball of the plant. I gently slide it into the jug and place the root ball firmly into the hole I dug. Use another tool to fill in the hole and tamp down the soil.



Okay, continue adding plants. This picture shows another plant that has been added and I am now tamping down the soil with a dowel. So, that's it. The terrarium is just about finished. Let me wrap this up for you.



## FINISHING OFF THE THREADS

Depending on how your structure is built you can handle the threads a few different ways. Once the pebbles and soil is in place everything is held tight so you might be able to pull the threads right out of everything. But if you can't do this you can put a little glue on the end of a tool and glue the threads where they meet the structure. Once that is dried

you can tuck the threads into the soil so they are hidden. It will all depend on what kind of structure you have built and how it is threaded.

Next you should water the terrarium. Get the soil pretty moist. Do this by using a straw as a funnel to slowly pour water into it in a way that is distributed around.

That's it. Put a cork on it and show it off!



## SOME TIPS FOR STARTING OUT EASY

I have been making terrarium for years and I tend to get a bit ambitious about them. I have even done one in a thirty gallon aquarium tank which was a lot of fun. But maybe you are new to terrariums and you want to start out with an easy project - Something that will be fun but not too tricky to figure out. Well, here are some great suggestions for you.

There are two things you can simplify:

First: start out with an easy container, something with a large mouth. An apothecary jar, Mason Jar, or a brandy snifter. This will make the work so

much easier. Something you can get your hand into.

Second: Think about easy plant selection. Plants that are very hardy and easy to care for are a good choice. Succulents usually make a great first terrarium. They are very hardy and easy to care for. (And they look so good) The picture here shows my preparation for a succulent terrarium.

Try a Single Plant – In a closed container or a nearly closed container a single plant can make a very attractive terrarium. I call this type of terrarium a Zen terrarium because of its simplicity.

## ABOUT SEEDS



I didn't cover the subject of making terrariums with seeds but it is a very viable option for you – particularly if you want to use a container with a very small opening like a wine bottle or wine jug. Just try to choose seeds for hardy plants that don't grow too large! And in the near future you are going to need your various tools to trim/prune and remove stuff from the terrarium. Things may grow out of control! Planting ten seeds may yield 2-3 viable plants so the rest has got to go!

## PUTTING THE POTS RIGHT INTO THE TERRARIUM

This is a neat little trick for terrarium making. You can put the pot or the pots right into the terrarium then fill around it with either soil or colored sand. The colored sand



makes for a great looking terrarium. But it also gives you the opportunity to mix and match plants that have different soil requirements. You can even use paper cups as the pot. That way over time they will rot away into the soil.

## CARING FOR YOUR TERRARIUM OVER THE LONG TERM

### SUNLIGHT

Conventional wisdom dictates you put it in a north facing window so it only gets moderate sunlight. And this is good because the glass will amplify the effects of sunlight (magnifying it). So monitor and limit the sunlight exposure.

### WATERING

If you got about the right amount of water in there the soil will be moist but not soggy and there will be a slow but constant effect of condensation that accumulates on the glass that runs back down into the soil. Add water if it dries out. And, if there is too much water you just have to open it or uncork it for a day or two allowing water to evaporate out.

### PRUNING AND TRIMMING

It is quite normal that the terrarium plants will need some maintenance in the first few weeks. Once the plants take good root they will most likely thrive because of the rich soil and the constant moisture. Use your tools to trim and cut things as needed or as seem aesthetically pleasing. You should also remove any dead matter as soon as it appears. Because of the high humidity level the dead matter can quickly spread.

# SOME FINAL TIPS AND THOUGHTS

## ACTIVATED CHARCOAL OR WOOD CHARCOAL

(but not briquets) is often added to a terrarium . This is called sweetening the soil. But in a terrarium it also acts as a purifier to keep the recycling water clean. You can scrape pieces off of hardwood lump charcoal or use activated charcoal that they sell in aquarium supply stores. Just put a thin layer of it over the sphagnum moss and under the soil.

## MOLD IN YOUR TERRARIUM?

This does happen and it is a common situation that beginners can run into. It is almost always caused by too much water in the container. Keep an eye on your terrarium for the first couple of weeks. Examine it often for any early signs of mold. Remove the mold if possible and remove the cover or cork from the terrarium for a day or two to allow some of the water to evaporate. This should correct the problem.

## SOME IDEAS FOR THEMES OF YOUR TERRARIUM:

Fantasy miniatures like unicorns or faeries

Japanese buildings or pagodas make a nice zen garden

Little soldiers make a jungle battle

Tigers would make a nice jungle scene

## SOME DIFFERENT TYPES OF TERRARIUMS:

Moss terrarium

Mushroom Terrarium

Desert/cactus terrarium

Succulents

Rain Forest

Beach or ocean scene

## CRITTERS IN YOUR TERRARIUM

The most important thing to think about when it comes to having critters in your terrarium is that everything has to be about them. That includes the types of plants. Research the particular small animal carefully in terms of moisture need, soil types and what plants it will eat – or even what plants can be poisonous to it.

# LIST OF PLANTS SUITABLE FOR TERRARIUMS

Some quick tips on plant selection:

First off it is important to try to keep all the various plants within the same range of needs in terms of water, humidity, sunlight and soil. This is because you can't specify for each plant. You have to think of the terrarium as a whole with specific ranges of all of these. So, it isn't generally a good idea to mix plants that require a lot of light with plants that don't do well under a lot of light.

The size and growth – And, one of our goals with a terrarium is to keep the growth of the plants limited. This means there will be less maintenance and it will look better for a longer period of time. But, this isn't 100% possible and you will be needing to prune and trim things down on occasion which is ok.

## SPECIFIC PLANTS MOSTLY BY TECHNICAL NAME

1. The Victorian Brake Fern - It remains small (*Pteris ensiformis* – 'Victoriae')
2. Sweet flag from Japan (*Acorus gramineus variegatus*) the sweet flag is a popular choice for landscape terrariums and it is slow growing.
3. Baby 's tears is also indispensable – (*Helxine soleirolii*) does well in terrariums but will need pruning because of growth.
4. Prayer plant such as *Maranta leuconeura kerchoveana* is suited to small terrariums.
5. Fittonia (nerve Plant) dwarf form if possible, does well in a terrarium but will require pruning
6. *Peperomia Orba* (Princess Astrid)
7. *Peperomia Rotundifolia*
8. *Peperomia Rubella*
9. Selaginella – indispensable in terrariums! Great for draping over rocks or bark in a landscape
10. *Scindapsus pictus argyraeus*
11. *Saxifraga stolonifera*
12. *Pilea cadierei* 'minima' – a slower growing form.
13. *Pilea depressa* has small leaves
14. *Helxine soleirolii*

15. *Pilea Microphylla* known as artillery plant
16. *Pilea repens* called black leaf panamiga (Free flowering) which is a nice bonus
17. *Adiantum rennerum* 'Wrightii' is a favorite fern for terrariums and remains quite compact.
18. Assorted *Cryptanthus* species – such as pink starlight. Terrestrial Bromeliads are easy to grow but do not tolerate soggy soil.
19. *Pellionia daveauana* is a spreading plant
20. *Reineckia carnea* is superb in large terrariums
21. *Podocarpus macrophyllus* (Yew Podocarpus) grow slowly but will eventually overgrow the terrarium.

## SUGGESTED/RECOMMENDED FERNS

1. Birds nest fern ( *Asplenium nidus*)
2. New Zealand Mother Fern ( *Asplenium bulbiferum*)
3. Button fern (*Pellaea Rotundifolia*)
4. False Holly fern (*Pellaea Viridis*)
5. Japanese holly fern (*Cyrtomium falcatum*)
6. Rabbits-foot fern (*Polypodium aureum*)
7. Mediterranean Brake (*Pteris cretica*)
8. Venus maidens hair fern (*Adiantum capillus-veneris*)
9. Tsus-sima holly-fern ( *Polystichum tsus-simense*)

## MORE PLANTS

10. *Codonanthe Carnosa Devoseana*
11. *Begonia Boweri*
12. African Violet Pixie Blue
13. *Aeschynanthus nummularius*
14. *Sinningia White Sprite*
15. *Episcia cupreata* (canal zone)
16. *Episcia cupreata* acajou

17. *Acorus Gramineus nanus*
18. *Pilea Microphylla*
19. *Podocarpus macrophyllus*
20. *polypodium aureum Mandaianum*
21. *Asparagus retrofractus*
22. *Nephrolepis cordifolia duffii*
23. *Biophytum sensitivum*
24. *polystichum tsus-simense*
25. *miniature saintpaulia hybrid*
26. *Gesneria cuneifolia var quebradillas*
27. *sinningia Cindy-ella*
28. *Begonia prismatocarpa*
29. *saxifraga stolonifera*
30. *saxifraga stolonifera tricolor*
31. *Sinningia Pusilla*

## RESOURCES/MORE

WEBSITE:I have a whole lot of terrarium stuff on my website. Just about everything you can imagine. [Check it out here](#)

Terrarium Making Videos [on my youtube channel here](#)

The videos also include how to make the wooden box terrarium and the six gallon jug terrarium. They are definitely worth taking a look.

Buying Terrarium plants:

All these technical names of plants can be a bit daunting. I have a list on my website with links to where you can purchase a variety of plants suitable for terrariums [right here](#).

### A THANKYOU FROM WILL

I had a lot of fun writing this book. I love terrariums! I hope you enjoyed this book and my sincere thanks go to you for purchasing it. Consider leaving a review on amazon about it. And stop by my website. I have lots of tutorials about a wide variety of creative subjects including blacksmithing, origami, classical guitar, dioramas and more!