

Terrariums

A guide to creating and growing your own terrarium indoors



At a Glance

Container: Should be sized according to the plants it will house.

Base Layer: Must allow drainage; coarse gravel/hydroton.

Substrate Divider: Divides base layer from soil (weed barrier fabric, coffee filter, etc.); layer charcoal on top, below soil

Soil (Substrate): above charcoal, all-purpose indoor soil without added fertilizers

Plants: Choose according to the environment you create (arid, humid, etc.)

Water: Against glass until water reaches the base layer, repeating in different areas until all soil looks hydrated.

Fertilizer: All-purpose fertilizer at half-strength while actively growing

Lighting: According to the needs of the plants in the container.

Temperature: Average above 60° F; below 60° at night

Materials

Container	Weed Barrier Fabric/Coffee Filter
Soil	Charcoal
Plants	Décor & Landscape Accents
Hydroton/Coarse Gravel	

Choose the Right Container

Consider where you will have the terrarium and choose your container to fit that space. Is space limited?

Conditions inside terrariums are usually moist, which makes it an excellent environment for plants that like humidity. Try using a goldfish bowl, a clear vase, or even an aquarium tank.

Before planting, wash the container with clean, soapy water and dry thoroughly.

Base Layer

Every terrarium needs drainage in order to keep plant life healthy and to prevent bacterial growth. It is important that excess water have the ability to drain to keep the soil from becoming soggy. The water line in the gravel should always be at least 1/2 inch below the soil substrate. The water will slowly wick back into the soil or slowly evaporate and produce humidity.

Hydroton is a lightweight, baked ceramic pellet that provides drainage and air flow and doesn't decompose or alter the soil ph. This can be used as the first layer at the bottom of the terrarium and should be between 1" to 2" thick.

Substrate Divider

On top of the base layer you'll need to create a divider. You can use weed barrier fabric, coffee filter, or fiberglass window screen cut to the dimensions of the container and placed between the base layer and the substrate (soil media). This layer prevents the soil from settling and clogging the base layer.

Charcoal

Place a thin layer of horticultural grade charcoal on top of the substrate divider. This helps to absorb excess water, as well as to prevent odors and bacterial growth.

Substrate/Soil Media

Many different mixes and soils can be used, but some are better suited to the conditions inside a terrarium than others. An all-purpose indoor soil without fertilizer will work, but be careful not to overwater.

Plants

The type of plants you incorporate should correspond with the type of habitat you create. It is important to keep scale in mind when choosing plants. Larger plants should be in the background, with smaller plants in the foreground. Trailing and creeping plants are best displayed where they can spill over or fill an area as a groundcover.

A balance of both terrestrial and epiphytic species can create an interesting display, but avoid using too many different types together in smaller vessels. A few individual feature plants accompanied by a couple filler plants has more of a natural look. Think thrillers, fillers, and spillers.

It is best to dry fit the plants while still in their pots before actually planting them. Once you are happy with their placement, make a hole in the soil large enough to accommodate the roots. Remove the plants from their pots and gently loosen the roots. If the soil is too shallow for the plant you selected for that particular area, you will need to cut the root ball. Use a sharp clean knife and cut from the bottom in the middle of the root ball up about 2/3. Keep the roots intact but allow them to flair out horizontally to fit in the shallow area. Next, lightly tamp down the soil to keep it from eroding. This ensures that all roots are firmly in contact with the soil. If the area is tight, try using a wine cork stuck onto the end of a bamboo skewer to tamp the surface of the soil. A spray bottle or mister can be used to rinse off any soil that is on the leaves or glass.

Landscaping & Accents

Wood or rocks can serve as a focal point, but may also function as mounting areas for epiphytic plants like bromeliads and orchids. If you have room, you can make multiple levels using cork, wood, or rocks to form terraces. These can be planted with trailing and creeping plants to add interest.

Keep scale and perspective in mind during this process. Using a few pieces of the same type of wood in varied sizes creates a much more natural look than using one large piece or mixing multiple types of wood together. Miniature garden accessories such as trellises, tools, furniture, or small animals can complete the look. Have fun with it!

In some cases, the difference between a nice terrarium and an extraordinary terrarium is the use of accents. Lichens, mosses, fake and real mushrooms and other accent items like miniature bridges complete the scene. Keep in mind the durability of each piece and whether they will hold up in a wet environment.

Lichens are generally easy to use and add a nice finishing touch. Small pieces of bark, shredded cedar, and sheet moss can cover open ground. Accents should be sparse and simple, used for adding a little interest rather than stealing the show.

Water

Water the plants in your terrarium by pointing a long spouted watering can toward the edge of the glass so you can see the water penetrating the soil from the outside. Once the water has reached the base layer (water pools at the bottom of the terrarium in the reservoir), move to another area. Repeat until all of the soil

looks hydrated. If the container is too small to water this way, use a spray bottle to dampen the soil.

It can be difficult to get rid of excess water, so check plants for moisture needs before watering. The top 1/3rd of the soil should dry before watering. The soil should look lighter in color and no water will be in the reservoir area.

Fertilizer

When the plants are actively growing, add an all-purpose houseplant fertilizer to the water, mixing it at half the strength recommended by the manufacturer.

Light

Light is one of the most important aspects of a terrarium. Often, plants suffer due to insufficient sunlight. Grow lights with full spectrum bulbs can help. Keep the light on for 12 to 14 hours a day. Setting a timer can help keep the light cycle consistent. If growing orchids, the day length should fluctuate to mimic the 4 seasons. Avoid placing terrariums in direct sunlight or near heating vents. If using natural sunlight, keep at least 2 to 3 feet away from a window so it gets about 2 to 3 hours of light, checking back throughout the day to monitor light levels. Rotate the terrarium monthly to give all the plants adequate light.

Temperature

Temperature is also very important. Most tropical plants will do just fine in average household temperatures, and shouldn't need additional heating unless nighttime temperatures fall below the low 60s for several days. Keep in mind that artificial lights will add some heat. Some plants will need defined dormancy periods wherein temperatures and moisture levels will need to be adjusted. Six to ten weeks below 60°F night temperature is usually sufficient.

Humidity and Air Circulation

Balancing moisture and ventilation is crucial to achieving adequate humidity levels. This may require a little trial and error in the beginning, but is important to the health and vitality of plants. If your terrarium will have a lid/top, you may want to try using a screen or partial glass with screen. Plastic or glass over the top can increase the humidity, and adjustments may be necessary to meet your target moisture level. Be careful not to over water while attempting to increase the humidity. If moisture droplets form on the glass, remove the lid to increase airflow. Once the droplets evaporate, close the top again and wait to see if they reappear. Keep doing this until it has evaporated to the right humidity level.

Grooming

You will need to prune your plants periodically so that aggressive vines won't take over the container and choke out smaller plants. Remove dead leaves and foliage to discourage disease and pests. If the plants grow too large, cut them back or remove them and replace with a smaller plant. Consider replacing it with a different type of plant to avoid future issues.

Dry-Climate Terrariums

Not all terrariums are humidity chambers. You can also grow a terrarium made up of succulents and cacti. Arid terrariums should be left wide open to allow air circulation, which is also necessary in the bright light situations these plants prefer. Enclosed terrariums kept in high light will overheat without proper airflow. Ensure plants are kept 2-3 feet from bright windows to avoid scorching foliage.