

Build a Terrarium

A terrarium is a closed environment that illustrates how an ecosystem works, but on a micro-scale. Inside a terrarium's walls, we can observe many different natural processes: photosynthesis, respiration, and the water cycle.

The transparent walls allow for both heat and light to enter the terrarium. Combined with the heat coming into the terrarium, the sealed container allows for the creation of a small-scale water cycle. This is because the moisture from both the soil and plants evaporates in the elevated temperatures which exists inside the terrarium. This water vapour then condenses on the walls of the container. Eventually, it falls back to the plants and soil below. It contributes to an ideal environment for mosses due to high moisture levels, helping prevent the plants from becoming over-dry.

The light that passes through the transparent material of the terrarium allows the plants within to photosynthesise, an essential aspect of plant growth.

When harvesting moss, remember only to take small amounts so they can grow back.



Things you'll need:

- Sand
- Soil
- Rocks
- Scissors
- Knife
- Bottle
- Spray bottle
- Moss



Step 1

Cut the bottle in half.



Step 2

Cut slits on both sides of the top half of the bottle. Make these 1 or 2 inches depending on the bottle size. This way, you can get the top half to fit over the bottom half and reseal it.



Step 3

Layer Gravel/stones. Sand, Carbon (if you have it) and then soil in the bottom half.

The sand and stones ensure the water can drain from the soil. You will be able to see if you are overwatering the terrarium as water will build-up in the bottom of the bottle.



Step 4

Designing your terrarium: using the micro-ecologies identification guide, choose a moss or two that would like similar conditions and harvest some for your terrarium. You can also use a stone to create a different terrain within your terrarium. use a stone to create different terrain within your terrarium.



Step 5

Watering: give your terrarium a good spray of water. You don't want to overwater your terrariums, so I recommend watering once a week, this is because moss doesn't have an actual root system. Mosses have rhizoids, which are root hairs that help these plants secure their shapes. Mosses absorb water into their bodies.



Step 6

Place the lid back on: using the slits that you have cut on the top half of the bottle, place the lid over the opening of the bottom half to seal your terrarium. Make adjustments to these slits, if needed.



Step 7

Placement: Moss uses sunlight to produce nutrients through photosynthesis. But also, a closed terrarium doesn't need any direct summer sun, as too much heat will build up inside the container and kill the plants and moss. I would recommend placing the terrarium on a window sill that gets an hour or two of sun first thing in the morning.

