The Art of Terrariums

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A Victorian-era garden that's easy to create

Terrariums are so '70s, you say. Yes, these planting houses were very popular in the 1870s and all through England's Victorian era. But their popularity is enjoying a rebirth. Although the use of transparent containers for growing plants dates back at least 2,500 years in Greece, the first terrariums as we know them are credited to Nathaniel Bagshaw Ward in his book *On the Growth of Plants in Closely Glazed Cases* published in 1842. His desire to see the transformation of a chrysalis to an insect started his experiments that led to the science of terrariums, called "Wardian Cases" at the time. These cases were also used to transport plants from distant places back to the British Isles. This style of container was made of a series of glass sheets framed together with metal, some quite ornate.

A terrarium is a tightly closed, clear glass or plastic container filled with small plants. The name now also includes open, transparent containers that display plants. Many growers are not particular about what kind of plants they include as long as they stay healthy and are ornamental. Others focus on specialty plants such as ferns, gesneriads or carnivorous plants. Some build terrariums as homes for small animals such as newts or frogs with plants as a backdrop. This set-up is called a vivarium. It is often difficult to keep the plants thriving because of the accumulation of animal waste that overwhelms the system and kills the plants.

Are you interested in building one of your own? The needs of your plants will determine your set-up, so have an overall plan in mind as you proceed. First, decide if you want a closed or open system. Closed types maintain humidity, but the danger of disease buildup can be problematic. Open systems require more frequent watering.

Containers should be made of glass or plastic for good light transmission. Fish tanks or bowls, brandy snifters, jugs, bottles or old glass jars can all be used. Specially designed containers are also available. Wash your container with hot, soapy water and rinse thoroughly. Dry well before planting. If commercial window cleaner is used, air out in the open for several days before planting.

The location of your terrarium is important. Light is needed for plant growth but direct sunlight can overheat an enclosed container. The larger the terrarium, the better its volume will buffer this effect. Place your container in diffuse sunlight and monitor light changes throughout the seasons. Or use artificial lights that provide good illumination and low heat. These can be placed on a timer to simulate natural conditions.

Your planting medium must be clean, well-drained and high in organic matter. Standard potting soil or a prepackaged mix of peat, vermiculate and perlite can be used. Either medium is sterile,

an important consideration for these enclosed spaces. Adding fertilizer is rarely needed because plants in terrariums don't grow rapidly. If fertility problems arise, you can add it at that time. Keep fertilizer off the foliage.

Noelle and Bodee Belanger of Big Lake created their own terrarium garden on a rainy winter afternoon – the perfect after school gardening project. *Photo by Christine Farrow/WSU Skagit County Master Gardener*

For your drainage layer, activated charcoal or pebbles should be placed in the bottom of your vessel. It is most effective when a ½" layer of charcoal is added on top of the pebbles. This is especially important with closed terrariums to cleanse chemical buildup. A layer of sphagnum moss or fiberglass screening can be placed over this layer to prevent growing medium from sifting through. Add growing medium, which is slightly moist but not muddy. A minimum of 1-1/2" to 2" is necessary for most plants. If the terrarium is to be seen from the side, slope the soil from back to front for best viewing. The drainage layer and growing medium should generally form about one quarter of the containers volume.

You may want to add rocks, sand, wood or other natural elements to form your own landscape. Sketch out the design before proceeding for best results.

Your plant selection will be dependent on the size of your container, the amount of light available and growing needs of the plants. Choose only healthy, disease free plants, which are slow growing. Ferns, mosses, flowering plants, mini-shrubs and others can be used. Check the Internet to determine what plants are right in your situation.

Left: Large or small, a Wardian case can become more than a design element in your home.Here it is being used to provide a more humid environment to nurture plant cuttings through the winter.
Above: Assemble all the ingredients before you begin to create your terrarium. A clean glass jar, clean rocks, charcoal, planting medium and plants with similar moisture needs are all that you need.
Photos by Christine Farrow

Arrange your plants in an open area the size of your container. Create a design with texture and relative plant size in mind, and don't try to mix too many variegations or unusual species. Start with a focal point, perhaps a low, coarse textured plant placed in the front with taller plants behind. After your design is complete, take the plants out of their pots, removing excess media and exposing the roots., Trim the roots if the plant is pot bound . Dig a hole and promptly plant, keeping leaves off of the glass. Tamp down carefully. If using a deep container or one with a restricted opening, slender tongs may be helpful. Add gravel, sand or moss as a finishing touch if you wish. Accessories can also be added now.

Mist to remove any medium on leaves or sides and to settle the soil. Don't cover yet. On day two repeat misting and leave cover open until foliage is thoroughly dry. Cover at this time. Watch closely for the first few weeks and remove any diseased plants promptly. If root rot is evident, remove the cover and allow plants to dry out a bit. Apply fungicide if necessary. After a few weeks, most terrariums are established and disease threats are reduced.

A closed terrarium should not need water for 4–6 months. Open terrariums can be very lightly watered but only occasionally. Err on the dry side. Keep monitoring light needs, and prune when necessary. Enjoy your beautiful new garden!

RESOURCES:

- Terrariums, University of Missouri Extension, Reviewed by David H. Trinklein, April 2010, http://extension.missouri.edu/p/g6520
- Terrariums, Purdue Extension, B. Rosie Lerner, January 2007, http://www.hort.purdue.edu/ext/terrariums.html