

Images submitted by Utah Agriculture in the Classroom

Directions: Follow these instructions to create your very own terrarium (enclosed mini-garden) and learn along the way. You will need an adult for parts of this activity.

You Need to do a little research on terrariums. Answers can be found on <http://www.google.com> or any other search engine.

1. What are some of the advantages of using terrariums to grow plants? Disadvantages?

YOU WILL NEED:

- 2, 2-liter soda bottles
- Razor blade or sharp knife
- Scissors
- 4 cm Moist potting soil or dirt
- Small pebbles or aquarium rock
- Water in a spray bottle
- Seeds- (popcorn or dry beans) or Seedlings (tiny plants if you don't feel like waiting for seeds)

OPTIONAL:

- Sphagnum moss (Optional)
- Activated charcoal (Optional)
- Duct tape (if needed)

How to Make Your Terrarium

Prepare Your Terrarium (PARENT NEEDED): It is **SO IMPORTANT** that your terrarium be constructed correctly for your plant to grow.

1. Remove the labels from each 2-liter bottle of soda.
2. Cut the bottle base (Using the razor blade or knife and scissors) away from the rest of the soda bottle 7-8 cm from the bottom. Keep the base and recycle the rest of the bottle.
3. Cut the second 2-liter bottle 13 cm up from the bottom of the bottle. Keep the base and recycle the rest of the bottle. This will be the top of your terrarium.
4. Poke several air holes in the top of the second 2-liter bottle so your terrarium does not get too wet.
5. Cut three or four 3 cm vertical slits up the open end of the second 2-liter bottle so that you will be able to slide it into the base of the first 2-liter soda bottle later.

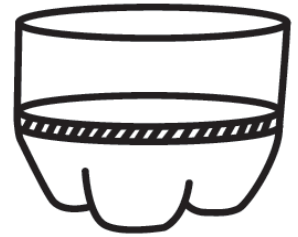


Figure 1: 2-liter bottle terrarium bottom

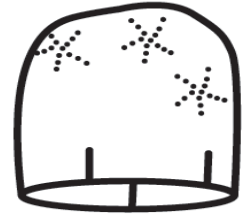
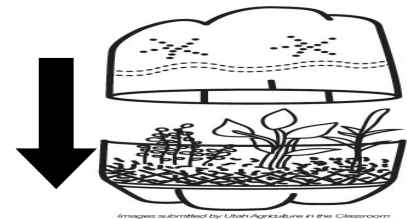


Figure 2: 2-liter bottle terrarium top

Prepare the Inside of Your Terrarium

1. Add 2 cm of aquarium rocks to the base of your terrarium.
2. Optionally add 1-1.5 cm of activated charcoal to purify/filter the water in your terrarium.
3. Optionally add a thin layer of Sphagnum Moss to prevent the soil from settling down into the rocks and allow the water to flow smoothly.
4. Add 4 cm of moist potting soil or dirt.
5. Place your seeds or seedlings (about 3 or 4) around the sides of your terrarium. (about 2 cm apart) Cover the seeds with another 1 cm of potting soil.
6. Water the soil/seeds with a few sprays from the spray bottle.
7. Slide the open end of the second 2-liter soda bottle (The one with the vertical slits you cut) onto the open end of the first 2-liter bottle base so that those vertical slits slide directly into the open end of the bottom soda bottle.
8. Place the terrarium in a spot that has plenty of sun.
9. Do not open your terrarium from any reason. If your terrarium is having difficulty remaining sealed, use duct tape to further seal it along where the two bottles meet.



Images submitted by Utah Agriculture in the Classroom

Time to Learn! Answers can be found on <http://www.google.com> or any other search engine.

1. What are some of the different enclosures/containers that terrariums can be created within?
2. Research each level of material inside your terrarium (rocks, potting soil, activated charcoal, Sphagnum moss, and water). What is each part's purpose within the terrarium? How does each part help the seeds grow into plants?
3. Your terrarium creates its very own mini-water cycle. What is the water cycle? Describe how the water cycle works within your terrarium.

Record Your Data

1. After 2-3 days, once your plants have sprouted, measure, in cm, to the best of your ability, the length of your new seedlings. **Measure with a ruler or tape measure on the OUTSIDE of the terrarium. DO NOT PUT THE RULER INSIDE THE terrarium.** Record your data on a separate sheet of paper. Afterwards, measure every couple of day for at least two weeks, or as long as you want, afterwards.
2. Describe the growth of your plants. How are they growing within the terrarium? Vertically? Horizontally? Both? Are there many leaves? are they flowering? Do your best to sketch a drawing of them and the inside of the terrarium itself each time you measure.