

**Soda Bottle Terrarium  
Lab Sheet  
6<sup>th</sup> Grade Science**

**Purpose:** The purpose of this activity is to build a terrarium in a plastic soda bottle, and to make observations of the model ecosystem over time.

**Materials:** You will need the following materials to build your model terrarium-

- One clear plastic soda bottle with a cap that can be tightly screwed on (clear plastic water bottles, juice bottles, etc. are fine)
- Scissors
- Masking tape
- Permanent marker
- Gravel (enough to cover the bottom of your bottle)
- Activated charcoal (enough to cover the layer of gravel)
- Potting soil
- Moss
- Seeds
- Water

**Procedure:**

1. Trace a line around the bottle about  $\frac{1}{4}$  of the way down from the top (where the bottle is at its widest, right below the neck)
2. Cut the top of the bottle off along the line you just drew
3. Put a layer of gravel about 1 inch deep in the bottom of the bottle
4. Cover the gravel with a layer of activated charcoal about  $\frac{1}{2}$  inch deep
5. Cover the charcoal with a layer of potting soil approx 2 inches deep
6. Place the moss on top of the soil (it should cover about half of the soil)
7. Place a few seeds into the soil next to the moss
8. Water the terrarium (use enough water so that it soaks through the charcoal and soil into the gravel- but not so much that it has a lot of standing water at the bottom)
9. Replace the top of the soda bottle and tape it in place
10. Ensure that the cap is screwed tight on the top of the bottle
11. Write a set of observations describing your terrarium making sure to include the date and that this is the day that it was made
12. Place the terrarium near a window

**Why the gravel?** 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?** It acts as a filter purifying the water as it flows up and down. The bacteria in the soil can cause the inside of the terrarium to decompose over time- this prevents that from happening.