

# Week 1: Watch Your Garden Grow

There's no better time than summer to explore nature. An ecosystem is a community of plants, animals and smaller organisms that live, feed, reproduce and interact in the same area. Ecosystems can be large like an ocean or small like your backyard. Make your own ecosystem for a bug's-eye view of science at work!

experiment

## WOODLAND TERRARIUM

### Materials

Clear container with a clear lid

Soil

Rocks

Activated charcoal (optional)

Spanish moss

Plant leaves

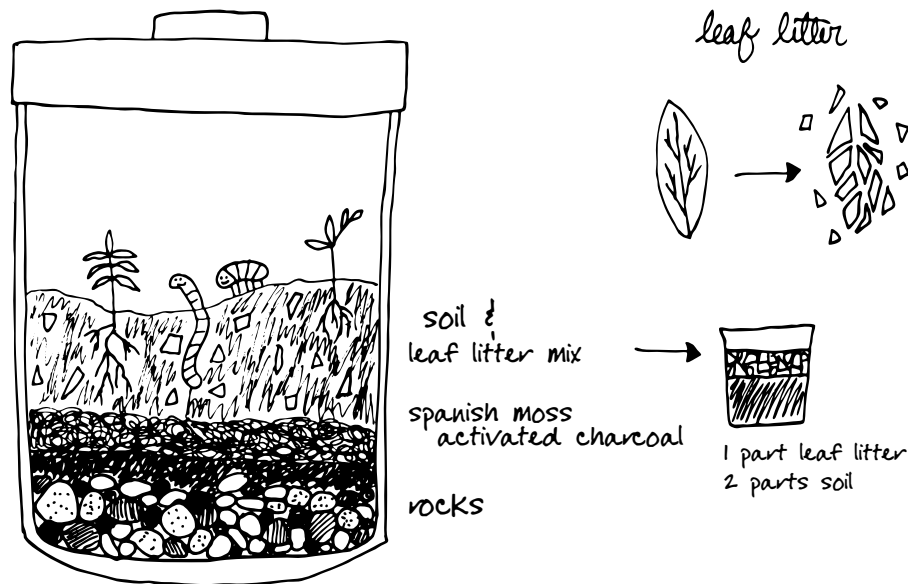
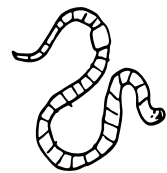
Low-growing woodland plants (like ivy, African violet, baby tears, moss)

Earthworms and bugs (sow bugs, pill bugs)

Thermometer

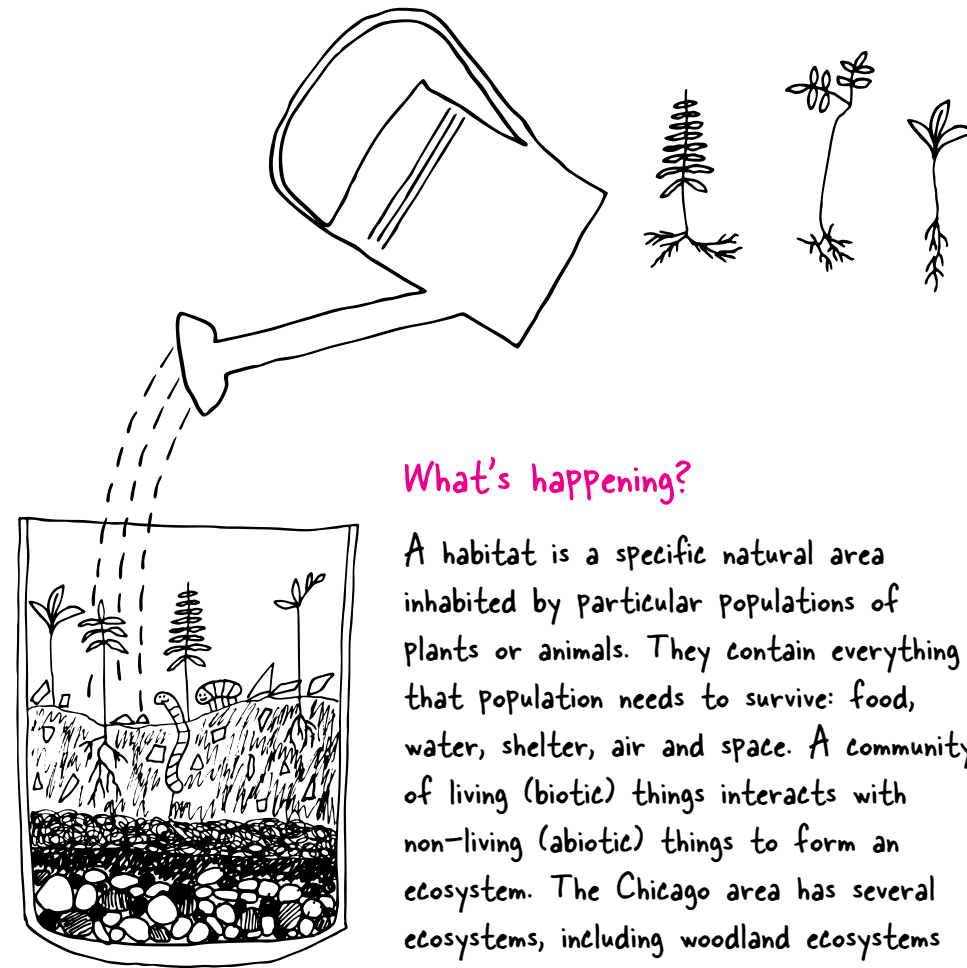
Ruler

Small toys and figurines



Start with a layer of rocks in the container for drainage. Add a small layer of activated charcoal if you'd like the terrarium to last; it helps keep the water and air clean. Add a layer of Spanish moss so soil doesn't clog the drainage channels.

Collect some fallen leaves (moist is best) and break them into pieces. Mix one part of this leaf litter with two parts soil and add a layer that's several inches deep. If the container is large, landscape the soil into hills and valleys. Sprinkle some leaf litter on top (as shelter for the bugs). Plant the plants in the soil, and add the bugs and earthworms. If you'd like, make a scene by adding small toys or figurines. Water the plants with a few tablespoons of water and close the lid. Add a little water once a week, and use a thermometer and ruler to measure changes. Open the lid weekly to let in some fresh air.

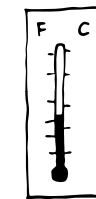


### What's happening?

A habitat is a specific natural area inhabited by particular populations of plants or animals. They contain everything that population needs to survive: food, water, shelter, air and space. A community of living (biotic) things interacts with non-living (abiotic) things to form an ecosystem. The Chicago area has several ecosystems, including woodland ecosystems like the one in your terrarium. Woodland ecosystems have dense tree growth and temperate deciduous forests (i.e., trees that lose their leaves in the fall). These ecosystems grow best with cold winters and hot, wet summers.

### Game on!

Predict how tall your plants will get by the end of summer and see if you're right. Keep a journal to track changes in your terrarium; make observations, drawings and track data collected with a thermometer and ruler.



check the temperature



measure your plants

### Tips

A container with a clear lid is best because the plants get the most sun. If you want to use something like a spaghetti jar, cover it tightly with plastic wrap and a rubber band instead of using the original lid.

Look for earthworms, sow bugs and pill bugs (also called roly-polys) in dark, damp places, like under rocks. If you put them in your terrarium, make sure it doesn't get too hot inside!

You can find activated charcoal at nurseries and garden stores.

### More ways to play with nature

Study a different ecosystem in your yard or local park, like a water shoreline. Pick a small area and record observations in a journal. Check back to note what's different.

Watch worms dig as they search for food by making your own worm farm. Get directions at [msichicago.org/wormfarm](https://msichicago.org/wormfarm)

Discover vertical, rain and vegetable gardens in the garden outside MSI's *Smart Home* ([msichicago.org/smarthome](https://msichicago.org/smarthome))